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OVERSIGHT ON THE DIVISION AIR DEFENSE GUN SYSTEM (DIVAD)

HEARING

BEFORE THE

SUBCOMMITTEE ON TACTICAL WARFARE

OF THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

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OVERSIGHT ON THE DIVISION AIR DEFENSE GUN SYSTEM (DIVAD)

TUESDAY, OCTOBER 2, 1984

U.S. Senate,
Subcommittee on Tactical Warfare,
Committee on Armed Services,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room SD-124, Dirksen Senate Office Building, Senator Barry Goldwater (chairman) presiding.

Members present: Senators Barry Goldwater, John W. Warner, William S. Cohen, Pete Wilson, Carl Levin, and Jeff Bingaman.

Staff present: George K. Johnson, Jr., James C. Smith III, and John J. Hamre, professional staff members; Gerald D. Strickler, printing and documents clerk; Marie Fabrizio Dickinson, staff assistant.

Also present: Gerald J. Smith, assistant to Senator Goldwater; Les Brownlee, assistant to Senator Warner; Bernard R. Toon, assistant to Senator Quayle; Mark J. Albrecht, assistant to Senator Wilson; Peter D. Lennon, assistant to Senator Levin; James Steinberg, assistant to Senator Kennedy, Edward McGaffigan, Jr., assistant to Senator Bingaman; and Charles C. Smith, assistant to Senator Dixon.

OPENING STATEMENT BY SENATOR BARRY GOLDWATER, CHAIRMAN

Senator Goldwater. The meeting will come to order.

Gentlemen, I don't think I need to apologize for the small attendance. We are doing our best in the Senate to resolve the differences we have so that we can adjourn Thursday or Friday with some kind of continuing resolution so that the troops can be paid.

Now, the purpose of our hearing today is to get the latest information on the division air defense gun system. This is an Army weapon system that has just begun to come off the production line.

The system is designed to protect Army troops and equipment at close-in ranges from enemy aircraft—particularly enemy helicopters.

This system has had some problems during its development. Most of those problems can be traced directly to the decision to use this system as a test case to try and shorten the development cycle.

Normally it takes 10 to 15 years to bring a defense weapon system through the R&D process to the point where production begins.

In the case of Sergeant York, the decision was made to greatly compress that schedule, using off-the-shelf technology. The decision to proceed with a new Army short-range air defense system was made in 1977.

The Congress which has long complained about the length of the R&D cycle, was a party to that decision. Today, just 7 years later, the production line is turning out six units per month. In my view, that is a remarkable accomplishment.

However, such an effort has resulted in problems—probably more problems than are usually encountered in a system development that takes the normal 10 to 15 years.

Now the press has decided to take on the Sergeant York and every problem is the subject of headlines. I don't know that I have ever seen such inaccurate and misleading journalism. We will get into that today during testimony.

Congressional decisions on the Divad are being driven by the press, not on the basis of sound, logical consideration of the facts. I am reminded of a flock of vultures hovering around a dying steer—and in my analogy, the Divad is the dying steer. Perhaps this hearing will serve to give that steer a second chance.

I have been to Fort Bliss and fired the Divad. It is an impressive piece of equipment. In fact nobody can doubt it is a good idea when you have two 40-millimeter guns directed by radar, mounted on a tank, systems that have proven themselves time and again, but are not working as well as we would like when they try to put them together.

You have a weapon that is good for ground to air and ground to ground. As a pilot I would not want to get within range of the Sergeant York guns if I were the enemy.

Having said that, I have an open mind on the Divad Program and if some of the alleged problems are real, if the system will not work, then I will be the first to recommend killing the program. But based on the facts that have surfaced to date, I think the decisions of Congress to proceed with the Divad are sound.

In today's hearing, we will hear from three panels.

First, there will be a DOD panel consisting of the Assistant Secretary of Defense for Development and Support, Dr. James P. Wade, Jr.; the DOD inspector general, the Honorable Joseph H. Sherick; and the Deputy Director for Operational, Test and Evaluation, Brig. Gen. Michael D. Hall.

Only Dr. Wade has a prepared statement; Mr. Sherick and Brigadier General Hall are here to respond to questions in areas where they have a particular expertise.

I expect the Defense panel to give us the current status of the Divad Program.

Second, we will have an Army panel, consisting of the Deputy Chief of Staff for Research, Development and Acquisition, Lt. Gen. Louis C. Wagner, Jr., and the Deputy Chief of Staff for Operations and Plans, Lt. Gen. Fred K. Mahaffey.

I expect the Army panel to cover the current status of the Divad Program and to respond to the allegations made by the press.

And finally, and probably most important, we will hear from the noncommissioned officers who were involved in the recent limited operational test of the Divad.

I thought members would like to hear from someone who has worked the Divad in the field; someone who has had to train soldiers to move, shoot, and communicate in the Divad; someone who might have to go to war tomorrow and fight with the antiquated air defense systems that we now have in the inventory.

Senator Bingaman has requested that his opening statement be entered in the hearing record.

[The opening statement of Senator Bingaman follows:]

OPENING STATEMENT OF SENATOR JEFF BINGAMAN

Mr. Chairman, I want to commend you for scheduling this hearing today. It is obviously timely, coming as it does just three days after Secretary Weinberger's decision not to ask for Divad production funds in fiscal year 1985 and not to spend the money authorized and appropriated for production in fiscal year 1984 until completion of the Divad's initial production tests and operational tests next summer.

I want to take just a moment to comment on this Subcommittee's role in monitoring the Divad Program over the past two years during which I have served on the Subcommittee. Mr. Chairman, I believe that we have been out front in following this program and in insuring that we get a gun system that meets its performance and reliability requirements. Last year, in response to the January 1983 General Accounting Office (GAO) report on the problems which Divad prototypes had encountered in testing at Aberdeen Proving Ground the previous summer, we put a fencing requirement into the Senate Armed Services Committee's report on the fiscal year 1984 Defense Authorization Act. We required the Secretary of the Army to send a report to us thirty days before he exercised Production Option III on the testing of Divad and to certify that in light of the test results obtained thus far he thought Divad would be able to meet its reliability and performance requirements.

At the same time we expressed support for the gun, if it could be made to work. We did so partly based on the Divad contract's warranty provisions, which are a model of what Senator Andrews has been seeking to have applied more broadly.

I might note that those who argue that the short range air defense job can be done solely with Chapparal and Stinger missiles should take a look at the Israeli Air Force's success in countering similar Soviet heat-seeking missiles with countermeasures since the 1973 war. I have been persuaded that the Army needs a mix of guns and missiles and that with both we are going to be engaged in a constant process of developing new counter-measures and counter-counter-measures to maintain their effectiveness against an evolving threat. The alternative to Divad, we must keep in mind, is not some perfectly effective gun or missile. The only other gun we have in the active forces is the 20 millimeter Vulcan gun, with a very limited range and a long history of problems with reliability and performance. And behind Vulcan stands the 512 Korean-war vintage M-42 Dusters with which our National Guard air defense battalions are largely equipped.

Mr. Chairman, This year we continued our oversight of the Divad at our March 6 hearing. By that time the first Divad gun was 5 months late in being accepted by the Army and the initial production tests which we had expected to have begun by then were correspondingly delayed. The Army had sent a blistering letter to Ford Aerospace in February concerning their performance under the contract. The Army stated in that letter that it would retain the right to delay the exercise of Option III one day for every day the first production gun was delayed in delivery. We discussed at the March 6 hearing whether modification of the Divad acquisition schedule was in order. I suggested the possibility of skipping a year in the production buy in fiscal year 1985, and waiting for the initial production test results before exercising Option III.

At our mark-up in May, we did not choose that approach, but we did once again fence all of the fiscal year 1985 production funding pending receipt of the initial production test results. And we did this a few days after the House rejected almost identical Divad fencing language, offered by Congressman Larry Smith of Florida, by a vote of 229-157. So once again our Subcommittee was out front of the Congress as a whole in expressing concern about the lack of adequate test data.

Since May, Secretary Weinberger has gotten involved personally in the decision on whether to exercise Option III of the production contract. It is my understanding that the need for the Secretary of the Army to send the report we required last year helped spur this high level review of the Divad program within the Defense Department.

Secretary Weinberger commendably at the end of June asked for additional Divad testing, the limited operational test we will hear reported on today. It took place in July at Fort Bliss, and apparently produced the mixed results that when combined with previous mixed results led to Secretary Weinberger's decision last week.

Based on what I know of the results of the limited operational test and previous tests (and I have been briefed by the General Accounting Office on them), I feel that this was a fair decision, and in fact one that I had suggested on March 6. I look forward to today's testimony in which we will have a chance to go over the recent test results in some detail.

I hope we will also discuss several other issues today. We do need to look at some of the earlier judgments made by this Administration and its predecessors on the acquisition strategy for Divad. Was there excessive optimism on the part of all concerned about how easy a job it would be to integrate all the elements of the Divad gun? Did the DSARC and ASARC processes work properly at both the full scale engineering development decision (ASARC II, DSARC II) and the production decision (ASARC III, DSARC III)? Were we in the Congress sufficiently skeptical about the degree of concurrency in the program? (After all we appropriated funds for the first 146 guns in fiscal years 1982 and 1983 with no strings attached despite earlier GAO reports questioning the strategy). And what broader lessons can we draw from the Divad case concerning reform of the acquisition process?

After all the Divad acquisition appears to be a model in many respects. We had competition between General Dynamics and Ford Aerospace. We gave the contractors flexibility to design the system as they wished so long as it met broad performance criteria. We signed a three-year contract with strong warranty clauses following the development prototype. We tried to make maximum use of off-the-shelf components to speed up the development process. These are all reforms which I often hear advocated.

Nevertheless, the Divad gun is in trouble. And the problem seems to lie in the interpretation of the test results at every stage of the process. Some in the Defense Department consistently saw the test results as not warranting the go-ahead decisions made. Others saw them as doing so. Only next summer will we and the Secretary of Defense really know which faction was right. And it is that which has bothered me since joining this Subcommittee last year.

I hope that we can find a way that we in the Congress can truly participate early on in the close calls that come before the DSARC. Norm Augustine suggested to the Senate Armed Services Committee's Task Force on Procurement a couple of weeks ago that we give closer oversight to DoD's decisions to go to full scale engineering development and to production, that too many systems were getting by those milestones with the result that we couldn't afford to buy enough of any of them. He suggested something like a two-third vote be needed to start producing a system and two-third vote to stop it, once started. That may not be the answer, but we in the Congress clearly do need to be more involved at the beginning of the weapons system acquisition process when the fundamental decisions are made, especially where there is controversy within the Pentagon on the system.

I look forward to today's testimony, and once again I commend the Chairman for the timeliness of today's hearing.

Senator **Goldwater**. Before we proceed, I will enter into the record a letter, dated September 29, 1984, signed by the Secretary of Defense, to the chairman of the Senate Appropriations Committee, which substantally alters the Divad Program.

This letter raises more questions than it answers and I hope, Dr. Wade, that you can explain it.

[The letter from the Secretary of Defense follows:]

Washington, DC, *September 29, 1984.*

Hon. Mark O. Hatfield,
Chairman, Committee on Appropriations,
U.S. Senate, Washington, DC.

Dear Mark: As you know the President requested $515.8 million for the procurement of 132 Sergeant York Divison Air Defense (Divad) systems in his fiscal year 1985 defense budget. The capability represented by the Divad is essential for our conventional forces and the Sergeant York has been subjected to great scrutiny by the Army, the Congress and my office, including myself personally. The House has recommended a reduction of $49.5 million below the revised estimate of $479.7 million (May amendment) for 117 Divad systems. The Senate version proposes to cut

Divad funding to $50 million to maintain the production line until Divad performance testing is concluded.

Since the Divad Program will be a conference item in the context of the fiscal year 1985 Continuing Resolution, I want to advise you and the entire Congress of my assessment of the preferred course of action regarding the Divad Program.

I have conducted an intensive review of the Divad Program. As a result of that review, I have concluded that until further testing is finished there should be no fiscal year 1985 procurement of Divad systems. Accordingly, I request the conferees to reduce the fiscal year 1985 request to $100 million. The $100 million will be used only for long-lead items for potential fiscal year 1986 procurement and will not be obligated until the completion of testing next summer. If those tests are not successful, the $100 million, of course, will not be spent. We will advise the Congress of the results of these tests before obligating the fiscal year 1985 funds.

The Department is reexamining its alternatives under the fiscal year 1984 Contract Option Three to reduce Government exposure, at no additional cost, until the completion of the tests next summer. One of the alternatives being considered is cancellation in which case none of the fiscal year 1985 funds will be needed.

I urge your support for $100 million for Divad in fiscal year 1985.

Sincerely,

CAP WEINBERGER.

We are in open session and I intend to stay in open session. The witnesses are cautioned to stay out of classified matters and to advise the Chair anytime they are concerned that we may be getting into classified details.

Dr. Wade, please proceed.

STATEMENT OF DR. JAMES P. WADE, JR., ASSISTANT SECRETARY OF DEFENSE (DEVELOPMENT AND SUPPORT)

Dr. WADE. Thank you, Mr. Chairman and members of the committee.

Let me first introduce my colleagues at the table. On my right is Joseph Sherick, the Department's Inspector General. On my left, Brig. Gen. Michael D. Hall, the Acting Deputy Director in the Operational Test and Evaluation Office within the Office of the Secretary of Defense.

I appreciate this opportunity to appear before your subcommittee to discuss the Sergeant York Division Air Defense Gun Program.

As you know, the Sergeant York gun program is being procured through a competitive, accelerated acquisition effort designed to achieve initial operational capability [IOC] in the minimum time, and at an affordable cost. The system uses an existing 40-millimeter gun, an existing F-16 aircraft radar modified for ground use and an existing M-48 tank chassis.

Ford Aerospace & Communication Co. won the competition and was awarded the phase II contract on May 7, 1982. The total planned program is for 614 fire units. The present contract, in addition to finishing the development, included firm fixed price options for 50, 96, and 117 Sergeant York fire units.

Options I and II are under contract for a total of 146 fire units. Seventeen fire units of option I have been delivered to date. This accelerated program, as you noted, Mr. Chairman, was selected by DOD and concurred in by Congress with the understanding that certain risks were accepted to obtain the Sergeant York in a short time.

The Sergeant York Air Defense Gun Program has been under review by the Secretary of Defense through the past summer. Our concern centered on performance, reliability, and production delays, and associated slippage of testing.

A production milestone in the program was imminent, that is, committing fiscal year 1984 approved funds to option III of the current contract for a buy of 117 Sergeant York gun systems. The test results accumulated on the program were not considered sufficient to justify acquiring these 117 guns before more tests were conducted.

Dr. DeLauer had signed a memorandum to the Under Secretary of the Army on March 14, 1984, requesting that the Army conduct a realistic period of operational testing on production fire units before option III was exercised.

The Senate had requested that a Secretary of the Army letter on the results of the initial production testing would be sent 30 days prior to committing to option III production.

As a follow-on, the Secretary of Defense, in a special review that he held in June 1984, directed that as much operational type tests as was practical be completed prior to making a decision on option III of the contract.

Reacting on short notice to the Secretary's direction to conduct operational testing on production fire units, the Army held what is now known as the "limited test" in July 1984. While this was not a true operational test in the strictest sense, it was conducted by soldier-operators in a field environment using three of the first available production fire units.

Mainly because of the short notice on which this test was conducted, several aspects of the test environment were constrained. The soldiers conducting the test had not undergone the complete training program envisioned for future operators, because that syllabus is not yet developed.

Similarly, all maintenance was performed by contractor personnel because the maintenance training course is not yet fully developed.

Other limitations to operations were dictated by range safety regarding live fire and use of the range-finder laser, the short time available for testing, and limited realism in the test scenarios.

Nonetheless, it was an opportunity to operate production articles in a field environment, and in so doing, discover any major problems associated with fire units to be fielded.

No such major problems were observed. These limited tests were worthwhile. Much valuable data was acquired.

However, the results of these tests were not conclusive because of the test conditions and lack of statistically significant numbers, and we consider that complete confirmation of the Divad meeting our needs will not be available until after the completion of the operational tests scheduled for late spring and the summer of 1985.

From review of the limited tests and the previously conducted tests, the Secretary of Defense decided that until the operational tests are completed, there should be no fiscal year 1985 procurement funds for Divad systems.

Accordingly, the Secretary of Defense requested the appropriations conferees to reduce the fiscal year 1985 request from $479.7 million to $100 million. The $100 million will be used only for long-lead items for potential fiscal year 1986 procurements and will not be obligated until satisfactory completion of testing next summer.

If those tests are not successful, the $100 million will not be spent. We will advise the Congress of the results of these tests before obligating the fiscal year 1985 funds.

The Secretary of Defense is examining an alternative to the present fiscal year 1984 contract option III to reduce the Government's exposure, at no additional cost, until the completion of the operational tests late next spring.

We are in negotiations with the contractor, Ford Aerospace Communications Co. to restructure the delivery schedules consistent with this alternative.

Another alternative being considered is cancellation of option III in which case none of the fiscal year 1985 funds will be needed.

At the completion of these negotiations, the Secretary of Defense will inform the Congress as to the decision on the fiscal year 1984 option III to the present contract.

Thank you, Mr. Chairman. I am now ready to answer your questions.

Senator GOLDWATER. Thank you very much, Dr. Wade.

I didn't see Senator Wilson come in. I understand he has a statement he would like to make.

Senator WILSON. Thank you, Mr. Chairman.

First, I would like to thank the chairman for convening this hearing.

For the record, I would like to note my complete agreement with the difficult decision that has been made by Secretary Weinberger over the past weekend regarding the Divad.

I think it is difficult for us in Congress to interpret test and evaluation data, especially when such data has not yet been made available to the committee.

I must concede that the reports as to the ambiguity of the results of the testing and the persistent production problems of the Divad warrant a cooling off period to properly assess the capability of the production of these fire units and the overall desirability of the Divad weapon.

I should like to acknowledge the efforts of two of my colleagues in resolution of this issue, my good friend from New Hampshire, Senator Rudman, and Senator Bingaman from New Mexico, who pursued this program, at least in part. It is through their efforts that we have facilitated the current pause in the Divad Program.

In this regard, I think that they have rendered us a service. They certainly have asked pertinent questions and pursued them appropriately.

Mr. Chairman, I should, however, like to take a moment to review the past Divad Program and in turn to ask our distinguished witnesses two questions.

After the President and Congress had decided to modernize our tank and armored personnel carrier capability, the growing Soviet attack helicopter threat and emerging U.S. doctrine of rapid counterpunch capability revealed an enormous gap in our capability that threatens the armored force and the concept of the air/land battle.

This gap had to do with mobile division level air defense capability from this urgent requirement through the Army's Divad Program, the Sergeant York gun. Because of the urgent need to fill the gap in our modernization program, the Divad gun was put on what has been described as a high-risk procurement fast track.

Recognizing the risk of this procurement task, the Department of Defense and the Department of the Army have prudently negotiated what has to be considered among the best procurement contracts within recent memory, giving the Army an unusually strong leverage over the contract.

This contract offered the taxpayer a fixed-price fire control unit with the full cost to contractor warranty provision. That is, if the Army found fault with any fire unit for any reason, the contractor would be obliged to fix it at the contractor's cost before the unit would be accepted by the Army.

Armed with this favorable contract arrangement, the Army and Defense Department moved ahead with this fast track procurement of the Divad gun. The rest, of course, Mr. Chairman, is history.

What I want to ask our distinguished witnesses is, first, has anything happened over the last 5 years that would cause any reevaluation of the threat requiring a mobile division level air defense capability or has your assessment of the urgency of this requirement in any way changed?

I would also ask our witnesses what the pause will mean for fielding a response to what I assume is still an urgent requirement if we decide to stick with the Divad gun next year or even to design a completely new system?

Finally, Mr. Chairman, I would ask of our witnesses what, if anything, the Army plans to do in this interim period to continue this very desirable protection of the taxpayer through a favorable provision of the Divad contract which we have already commented on, at least until such time as a final decision on this system is reached?

With those questions, Mr. Chairman, I again thank you for convening this hearing so promptly and I await the response from our witnesses.

Senator GOLDWATER. Senator Cohen?

Senator COHEN. I want to inquire whether Mr. Sherick is going to make a presentation similar to the one he made before the Government Affairs Committee earlier?

Mr. SHERICK. No. I am not. I was invited to answer your questions.

Senator GOLDWATER. Both Mr. Sherick and General Hall are here to answer questions.

Would you like to answer the questions proposed by Senator Wilson?

Dr. WADE. Yes, sir. Let me note agreement with what Senator Wilson has said, that the threat certainly has not diminished since this requirement was established by the Army.

As a matter of fact, in my personal judgment, the threat has since been increasing in real time and we do indeed need a modern Divad-like mobile system which is mobile in kind.

We also need to assure ourselves as we commit further to a $4 billion-plus program, that the product that we are procuring stands up to not only the contractual specifications, but also stands up to the threat projected today and in the future.

It is my personal judgment that the Divad Program as it currently exists is on track to meeting our requirements, although as of now there are yellow cautionary signs that have come out of past recent testing that has warned us to be careful and to make sure that the product that we are going to buy really does fill the bill. We believe that the test program that is being structured for next June at the latest will provide the detailed answer that we need to make the right decision for the kind of resources the American taxpayer has given us in this important mission area.

As to the slippage in the program, it is quite clear that since we are not procuring now the additional 117 fire units with fiscal year 1985 resources, there will indeed be a slippage as to the FOC.

Yet, I think we could, if fully successful with the test program next summer, look at thereafter accelerating the program if our decision is indeed to proceed.

As to our alternatives in case the program is canceled, the Department will be facing a major loss in this one mission area, for all viable alternatives will cause some loss in time.

I think it would also be helpful for us as we proceed through the summer test period to look at testing other alternatives, to put them as close as reasonable through the same type of screening procedure in order to improve upon our judgment to, the viability of the Divad system itself and to the viability of other candidates, rather than looking at only paper studies.

Senator GOLDWATER. I might add that, in my opinion, the threat has increased. I can recall during the Vietnam experience when we were for the first time using helicopters for ground support that the Russians rather laughed at us. They made statements they could see no use for a helicopter for that purpose.

Yet they developed the HIND, probably the world's biggest military helicopter, and now the HAVOC which is almost a copy of our AH-64.

So, I see the threat increasing, not diminishing.

Do you have some questions, Senator Cohen?

Senator COHEN. I have some questions I would like to direct to Dr. Wade.

You indicated that the Ford Aerospace won the competitions initially. There was a report, as I recall, that appeared in the Atlantic Monthly a year or so ago in which it was alleged that the Ford product actually performed worse than its competitor at the initial level.

Is that a correct or incorrect statement?

Dr. WADE. It is my judgment, Senator, that the process worked correctly. The Army made the decision at that time toward Ford Aerospace Corp. I have seen no details of the facts that indicated otherwise.

Senator COHEN. Could you supply the committee with a summary at least of the performance of each of the competitors at that time?

Dr. WADE. Yes, sir. I will have to ask the Army to provide most of that detail.

[The information follows:]

SENATE ARMED FORCES

I have been advised by the Army that System Performance and Cost Data of the Divad competition cannot be provided for the record because they are part of the Source Selection process used to select the winning contractor and are therefore not releasable. I am able to provide the competitive system description which follows:

Item	Ford	General Dynamics
Chassis	By direction, utilize modified M48AS	Same.
Armament	Twin 40MM Bofors L70 Guns, equipped with new design linear-linkless dual feed mechanism. 502 ready rounds available, with dual ammunition feed capability.	Twin 35MM Oerlikon Guns, with linked ammunition feed. 640 ready rounds available, with dual ammunition feed capability.
Ammunition	Proximity-fuzed prefragmented (air targets), point detonating high explosive, and target practice.	Same, plus an armor-piercing discarding sabot projectile for use against lightly armored ground targets.
Fire control subsystem	Radar and optical sensors to search for and track targets, maintain search while track. Digital computer for fire control processing.	Same, plus provision for aim correction by projectile spotting using radar sensor.
Radar subsystem	Derived from Westinghouse F–16 radar program, modified with new antennas, modified signal processing. X-Band frequency for search and track. Provisions for electronic countermeasure hardening.	Derived from General Dynamics in-house radar for Phalanx program, modified with new search antenna, modified signal processing. K_u Band frequency for search and track, provisions for electronic countermeasure.
Optical subsystem(s)	Gunsight with laser rangefinder, stabilized optical sight head, facilitates target identification. Squad Leader's sight for surveillance and target acquisition.	Dual power sight with integrated laser rangefinder, stabilized sight head for surveillance, identificaiton, and target tracking functions.
Target references	Centralized attitude reference unit to facilitate fire on the move. Includes gyro-compassing capability.	Several inertial reference sensors to facilitate five on the move.

Senator COHEN. I understand also the original purpose behind having the Divad is to meet the threat against fixed-wing aircraft. Is that correct?

Dr. WADE. My judgment——

Senator COHEN. I am asking you what it was initially.

Dr. WADE. The answer is yes.

Senator COHEN. Then you found out after testing that it could not in fact perform that mission, that any aircraft on a high-speed, rapid maneuver could not be tracked by this particular system; isn't that correct?

Dr. WADE. That is not totally correct. There are two parts to the problem.

No. 1, the Soviet helicopter threat is indeed a major element of the SHORAD air defense threat.

Senator COHEN. That is not what I am asking you. I asked the question originally whether this system was designed to meet the threat from a fixed-wing aircraft?

Dr. WADE. Yes, sir.

Senator COHEN. What changed your mind about the threat?

Dr. WADE. The system is today designed to handle the fixed-wing aircraft threat. In addition to that, it has also been designed to handle the threat against the helicopter.

Senator COHEN. It is now designed to defend against fixed-wing aircraft and helicopters?

Dr. **Wade**. Yes, sir.

Senator **Cohen**. You are satisfied that this system can track and in fact, destroy fixed-wing aircraft coming on a high-speed maneuverable route?

Dr. **Wade**. Within the specifications that have been set for the program, yes, sir.

Senator **Cohen**. And hovering helicopters as well?

Dr. **Wade**. Yes, sir.

Senator **Cohen**. Nothing has changed your mind about that?

Dr. **Wade**. No, not at all. I would like to add here the observation that in part this argument is based on differences of view between the viability of gun systems versus missile systems. And I believe our Air Force compatriots are very concerned about a comparable gun system that today is in the hands of the Soviet Union.

It is my judgment that the best approach for this mission is a mix of both gun and missile systems. I am highly satisfied with the approach we have taken.

Senator **Cohen**. Are you saying that the tests to date have shown that this system is capable of not only tracking fixed-wing aircraft on a high-speed maneuver, coming into the armored column as such and has capability of adequately tracking hovering helicopters.

Dr. **Wade**. The test results to date indicate that, although there are yellow cautionary signs that we should fully test out this system this coming summer; that, the prognosis is to proceed with testing.

In reference to handling either the aircraft threat, or the helicopter threat, there are conditions in which the system will not work. We understand the envelopes.

Within the contract specifications established by the BOC we feel that the program is sufficiently on track to proceed to the next step which is next summer's full-up test program.

Senator **Cohen**. Would you dispute the inspector general's finding with respect to the reliability of the radar fire control system, the failures that occurred during the testing, the armament speed system performance?

Dr. **Wade**. No, sir, I do not dispute fully the inspector general. It is our position that these limited tests that have taken place up to this past summer were of the kind that were consistent with the initial acquisition strategy, which was test, fix and again test. They are also sufficient and consistent with moving into the next phase of the program which is the full follow-on test and evaluation starting no later than next June. We support this step.

Senator **Cohen**. Mr. Sherick, would you summarize the findings of your department with respect to this system from the beginning?

Mr. **Sherick**. Basically, as the inspector general, I looked at two things as they related to the Divad gun.

The first one was the procurement process that took place between May 1980 and May 1981. We looked at the management of that procurement process and the cost as it was finally established as a target cost for the contract.

We thought that the procurement process was imaginative and certainly ingenious, but we found that the cost discipline was just not there, that we could appreciate the accelerated procurement.

We didn't feel that the process in evaluating the contract and the costs should be accelerated.

Our bottom line in that instance was that we just didn't feel that the cost and pricing data was adequate, that they didn't ask for enough and, second, what they did ask for they didn't completely use.

We found $84 million in the target price that we thought shouldn't be there.

Since that time we have been told Ford Aerospace has come back and said some of the items that are in there won't be in there when option III is negotiated.

The second thing we looked at was the hotline allegation. The allegation said in effect that test data presented by the Army to the Division Air Defense Gun Defense Systems Acquisition Review Council in May 1982 when the production decision was made was known to be faulty; specifically system engagement kill probability was overstated and system reaction time was understated.

We went in and looked at that. We concluded a couple of things.

First, we concluded that the operational test data that had been requested and is a prerequisite to the production decision was not available at the time DSARC met.

What had been done was to portray development test data in a way that would give you the view that it was operational test type data. We felt that was optimistic.

Senator COHEN. Will you stop there?

Mr. SHERICK. Yes, sir.

Senator COHEN. In other words, there was inadequate testing to be done in the first place and then the information that was presented was in your judgment, either overstated or overstated in a way that gave it the most optimistically possible conclusion?

Mr. SHERICK. I wouldn't agree with you.

I think they asked for the right data. There was no question they went back and asked for operational test data and they asked for development test data.

The operational test data was just not available. It didn't become available until November 1982 which was 6 months after the DSARC. But the DSARC had requested that that data be available in March 1982.

One piece was available, the other piece was not.

Senator COHEN. You said they treated data that was supplied as operational data?

Mr. SHERICK. That was our conclusion that they treated it in the same way. They portrayed it in what we thought was a simplified way.

Senator COHEN. Isn't that in fact erroneous to take test data and treat it as operational data?

Mr. SHERICK. I concluded that if you are going to make production decisions, you need operational test data. If you don't have it, then you should not make a production decision.

So, our conclusion was that the DSARC was too early and should have waited for the operational test data.

Senator COHEN. And in fact had incomplete information?

Mr. SHERICK. That is correct.

Senator COHEN. Tell me about the kill time and engagement.

Mr. SHERICK. I think that is classified.

Senator COHEN. Did you find that it was overstated?

Mr. SHERICK. We felt there were optimistic assumptions, and we felt that it was overstated.

Senator COHEN. What else did you do?

Mr. SHERICK. We could find no indication that anyone purposely deceived the DSARC. We concluded that people who were making the decision or involved in the process knew that the operational test data wasn't available. So, the basic allegation of "known to be faulty," just couldn't be proved.

Senator COHEN. What else did you do?

Mr. SHERICK. They were the only two things we looked at in Divad because the General Accounting Office has been involved in the audit of the system from the very beginning. I think they have issued about three or four separate audits on it.

So that our involvement in it was pretty much the part of looking at the procurement process.

One of the first things Secretary Weinberger did when he took over the Department was to make major changes in the way we bought items. This was one of the assignments I had, to go back and audit some of the programs that had been targeted and look at them and see if there were problems. This is one we did look at.

Senator COHEN. Dr. Wade indicated under the specs as currently written, the system in the current state of operational capability can engage fixed-wing aircraft on the high-speed maneuver.

Is that your judgment?

Mr. SHERICK. I am really not qualified. We didn't look at the current test data. We looked at the test data that is actually 2 years old.

Senator COHEN. Did the specs change in this regard from the original?

Mr. SHERICK. I don't think the specs have changed.

Senator COHEN. Let me go back and summarize what I have here.

The Controller General's report to Congress said:

> In a preliminary demonstration the radar fire control system failed to operate and the graphic display unit failed.
>
> The Army feed system performance was unsatisfactory.
>
> During the cold chamber testing the system performed erratically in temperatures below 35 degrees Fahrenheit and the hydraulic system would not operate properly.

Was that information available to the Army at the time they decided to go forward?

Mr. SHERICK. I don't know what audit that is. The production decision was made in May of 1982. I know GAO has a current audit on this recent test that Dr. Wade talked about.

Senator COHEN. Mr. Chairman, I am trying to explore this to be fair to the Army terms of the so-called concurrent testing. It does have inherently liabilities. When you are developing a system which is as technical as this and go forward with concurrent tests, I think it is a mistake.

I don't know whose judgment is responsible, whether it is DOD's, the Army's or the Congress', but it seems to me these are the areas where we ought to go much more cautiously rather than accelerate the program in view of the fact that the threat is there and no one disagrees with that.

The question is when you pursue a system of this complexity with as many potentials for failure as we have in a system like this, then we are making a mistake for the taxpayers as well as our own Defense Department to pursue this on a concurrent testing basis.

I think that is the essence of what is going on here. We tried to go ahead too quickly technically to meet the established threat.

Is that a fair summary, Mr. Sherick?

Mr. SHERICK. Yes.

Senator GOLDWATER. I will say to the Senator that with reference to tracking high-speed aircraft, I have done it. I have tracked an A-7 flying at low altitude at mach 0.75 or something thereabouts, and I had no difficulty.

Of course, we didn't fire at it, but it will track it, in my opinion, at any speed that you can get an attack airplane to fly at low altitude.

Dr. Wade, do you agree with the findings of the IG with regard to his report?

Dr. WADE. The IG, Mr. Sherick, as he has stated addressed two issues on Divad. The first had to do with $84 million of potential contract overcharge.

The second, did the "system" basically deny the DSARC principals the information necessary for them to make the correct production decision?

In reviewing both the reports of Mr. Sherick, and the response from the Army, there are two aspects we ought to go over here.

As to the first, there was agreement by the Army that in reference to the issues associated with procurement of spares, spare parts, that this part of the Divad acquisition process did not work as it should have. There have been agreements toward improving that aspect of the acquisition problem. To the comment that perhaps $84 million was potentially provided to the contractor, which would not be in the interest of the Department, I believe there are pros and cons on both sides of this finding.

My interest in the report is to proceed on-ward and get this job done at minimal cost. There are aspects here that are most helpful from the IG report; and at the same time the responses from the Army I think are helpful in finding the truth which lie somewhere between both parties.

In the case of the $84 million, we have not closed option III. In the main, that $84 million is involved in that option. We are going to have to change that option downstream and the input we have had from Mr. Sherick, in my judgment, will be helpful to make sure we will improve upon that option as we finalize our negotiations.

In reference to the information associated with the DSARC decision in May 1982, I would like to comment that, first of all, there was agreement that there was an increasing threat that required addressal when this program was approved. There was a decision to proceed and on an accellerated basis, as Senator Cohen has noted.

The program indeed had a high degree of concurrency to it. Yet at the same time the subsystem components that made up the Divad system were proven individually (in other mission areas); and, therefore, I think there was the judgment that concurrency was in order.

Now, as to the detail that was provided the DSARC in May 1982, it is true that the information available was limited in scale and it is also true that the further information that presumably came from the earlier T&E testing in December 1982 did provide additional important information, but in both cases the data that was available was not conclusive enough to make any final determination to change the acquisition strategy either the data we had in May or the later available additional data in December 1982.

It was the judgment by some then, as it was the judgment during the review of this past summer, that a follow-on all-up test is really what is needed to make a conclusive judgment.

At that time, the review then was such there was no reason in not proceeding with the strategy approved earlier.

Yet, we believe now we ought to slow down, complete the follow-on test and evaluation, before we move and finalize option III.

In summary, in reference to the IG report, I believe the data was sufficient in defense of what was available and required and with the strategy and risk.

Senator GOLDWATER. General Hall, will you comment on the question of whether Divad can track fixed-wing aircraft?

General HALL. In the recent limited tests it successfully detected and tracked A-7's and F-4's. We were unable to follow that through to a probability of kill analyses due to range instrumentation limitations.

Senator GOLDWATER. Dr. Wade, let me turn to the recent decision of the Secretary of Defense that is contained in his letter that I have made a part of the record.

Currently the Army has a contract with Ford Aerospace to buy Divad that provides three options:

Option I, which has been executed using fiscal year 1982 funds to buy 50 Divad fire units.

Option II, using fiscal year 1983 funds for 96 units has also been executed.

Option III, which is for 130 units and for which $580 million has already been authorized and appropriated in fiscal year 1984 has not been executed.

Have I portrayed the situation accurately?

Dr. WADE. Yes, sir, Mr. Chairman, with one exception.

The 1984 program now is programmed to purchase 117 fire units. The original figure which was in the January 1984 budget was changed during the May time period.

Senator GOLDWATER. The rest of that statement would be accurate?

Dr. WADE. Yes, sir, with that one exception.

Senator GOLDWATER. Dr. Wade, I think the current contract that the Army has is a pretty good contract. It requires the contractor to guarantee the Divad, to fix at his own expense anything that does not meet contract specs.

What is your opinion of the current contract? Is it a good contract and does it protect the Government's interest?

Dr. WADE. Mr. Chairman, the current contract is a good contract for the original acquisition strategy. I think the warranty provisions are fully consistent in the main with the thrust and direction of Congress. The difference we have now is that the contractor was slow in his delivery of contracted Divads; and, in making sure the system performance is up to contract specs and operational potential. We are in the process now of negotiating with the contractor to delay the award of the fiscal year 1984 moneys until we finish the summer tests.

It is my judgment, although negotiations are underway, that we will soon find, in the next few days, a general agreement with Ford as to the importance of proceeding and working with the Department to see that the option III contract and our need for change is met.

I am quite optimistic on that, Mr. Chairman.

Senator GOLDWATER. I turn now to the DOD IG report, dated September 10, 1984. I am not going to put this entire report in the record because it is too voluminous.

However, at this point I will enter into the record a letter signed by Derek J. Vander Scha. Schaaf for Mr. Sherick, DOD IG to the Honorable Denny Smith.

[The letter follows:]

DEPARTMENT OF DEFENSE,
INSPECTOR GENERAL,
Washington, DC, September 16, 1984.

Hon. DENNY SMITH,
House of Representatives,
Washington, DC.

DEAR CONGRESSMAN: Enclosed, as promised in my August 14, 1983 letter to you, is the final report on the audit of the Division Air Defense (Divad) Gun System. The audit was made from July 1983 to January 1984 and covered the contracting process which took place between May 1980 (Request for Proposals) and May 1981 (Contract Award).

Please note that dollar amounts shown in the prime contractor's best and final offer for its major subcontractors and the values this prime contractor subsequently negotiated with its subcontractors have been removed. The removal of this competition-sensitive data is in consonance with Title 18, U.S. Code, Section 1905 and implementing Department of Defense Regulation 5400.7R.

My staff would be pleased to brief you and members of your staff on the audit results.

Sincerely,

DEREK J. VANDER SCHAAF
(For Joseph H. Sherick, Inspector General.)

Senator GOLDWATER. Mr. Sherick, who is Denny Smith?

Mr. SHERICK. He is a Member of Congress.

Senator GOLDWATER. Would you characterize him as a friend of the Divad program?

Mr. SHERICK. I couldn't characterize him either way. He has been critical of the Divad.

Senator GOLDWATER. Why did you send him a copy of this report?

Mr. SHERICK. He had asked the Secretary of Defense for it. The Secretary had assured him when we were completed, we would provide it.

Senator Roth also had asked for the same kind of consideration.

Senator GOLDWATER. Did you supply Senator Roth with it?

Mr. SHERICK. Yes. Senator Kennedy of this committee had also asked, and we provided him a copy.

Senator GOLDWATER. Unless they ask for it, you don't send them?

Mr. SHERICK. Normally we don't make distribution except in the Department of Defense. If people ask for reports, we do make distribution.

Senator GOLDWATER. I am interested because I am chairman of the Tactical Warfare Subcommittee and I had not seen the report until today.

I have heard that NBC had this report before the Army had a copy. Is that possible?

Mr. SHERICK. It is certainly possible if it is leaked out of the Department. I have no control over that. Sometimes people have copies of my reports before I see them.

Senator GOLDWATER. I know what you mean.

I should like to ask you to send me any reports, further reports, that have to do with military systems.

Mr. SHERICK. Yes, sir.

Senator GOLDWATER. They would be very valuable.

Mr. SHERICK. We do make them available and I think, the Appropriations Committee gets all our reports. We make them available to other committees that are interested.

Senator GOLDWATER. We still want to stay in business. We are still getting pushed out the back door.

I have a few more minutes.

Dr. Wade, explain briefly why a limited operational test of Divad was set up?

Dr. WADE. Mr. Chairman, back in March as a result of concern expressed by officers in OSD as to the question you posed earlier; namely, was the DSARC procurement decision and process of May 1982 sufficient in light of the information then available, discussions took place over the following months that the data was not sufficient, and that the acquisition schedule was not in order.

In that light, and responding to that concern, in March of this year we asked for additional testing before proceeding with option III.

There was an increasing concern expressed through all in the process, both within the Department and outside, that additional test information was needed before the Secretary should make the decision to proceed further with procurement.

Senator GOLDWATER. General Hall, who was responsible for the conduct of the tests?

General HALL. The test was conducted by the Army Operational Test and Evaluation [OTEA] Agency.

Senator GOLDWATER. Did your office participate in the test?

General HALL. Yes, sir.

Senator GOLDWATER. Did you have anyone at the test?

General HALL. Yes; we participated in setting up the test and also had an observer on site.

Senator GOLDWATER. General Hall, do you think the test results have been accurately and fairly presented by the Army?

General **Hall**. Yes; we recently went through 55 of the key ROC requirements with the Army and OSD staff. We have come to very close agreement, particularly in regard to the limited test results.

I don't know of any disagreement other than shades of gray on the impact of those results. The results we agree on.

Senator **Goldwater**. General Hall, there was an article in the Washington Post on September 17 that reported that "the Army's new supergun, the costly, elaborate Sergeant York, Divad, has failed recent tests." The entire text of that article will go in the record at this point.

[The Washington Post article of September 17 follows:]

[From the Washington Post, Sept. 17, 1984]

WEINBERGER DUE TO DECIDE FATE OF ARMY GUN THAT FAILED TESTS

(By George C. Wilson)

The Army's new super-gun, the costly, elaborate Sergeant York Divad, has failed recent tests and aides are scheduled to recommend this week to Defense Secretary Casper W. Weinberger whether to continue, stretch out or kill the $4.2 billion program which has stirred opposition in Congress and controversy in the Pentagon.

Weinberger, who has championed the weapon as part of his oft-stated pledge to "rearm America," said in a telephone interview that some of the test results "are good and some aren't so good. We need to take more time to look at some other tests results" before making a decision on whether to buy the next batch of Divads.

The immediate question before Weinberger is whether to buy another 117 Divads on top of the 146 already ordered in light of its inability to detect decoys and overcome electronic spoofing or spotlighted in most recent Army tests at White Sands, N.M. The Army hopes to buy a total of 614 Divads and has already invested $1.5 billion which cannot be recovered.

The controversial tests results on Divad come when a growing number of lawmakers are demanding that the Reagan administration take a harder line against contractors who deliver flawed weapons.

The shortcomings of Divad, no matter how the Pentagon explains them to Congress, seem certain to fan the flames of this latest controversy.

Richard D. DeLauer, Pentagon research director, said he is sifting through the test data and will make his recommendation to Weinberger this week on where to go next with Divad, an acronym for division air defense.

The Divad consists of two fastfiring, 40mm Swedish Bofors guns mounted on an M48 tank chassis. The guns can be aimed by radar or human eyes.

The Army contends that the advent of big Soviet helicopters that can fire antitank missiles at American armor on the battlefield makes the Divad vital.

"We need the capability," Weinberger said, He would not say which way he was leaning in regard to Divad's future or when he would make his decision.

His options are to certify to Congress that Divad is reliable enough to warrant further production, to suspend or stretch out the purchase of the next batch until fixes are made or to cancel the program. To save time, Divad is being tested and improved while it is in production.

DeLauer is known to feel that Divad's problems can be corrected but has focused on whether the end product would be reliable and simple enough to put in the field where troops, not factory specialists, would operate it.

This summer's tests of Divad at White Sands gave the gun's critics fresh ammunition.

The antiaircraft system mistook almost half the 180 decoys sent against it for real targets, sources said, and could hit only about one-third of the aerial attackers when they employed electronic countermearsures to fool the gun's radars.

Also, officials said, Divad had difficulty hitting simulated Soviet helicopters which used the "pop up" technique of rising quickly from the ground, "firing" antitank missiles and then ducking down low again to hover on the nap of the earth.

Success was achieved only after several radar reflectors were attached to the target helicopter, sources said.

Pentagon officials, while not disputing that those problems were revealed in this summer's tests, countered that they do not mean Divad would not be an effective weapon against the threats it was designed to combat. The Divad is working with a radar from an Air Force F16 fighter, a Pentagon defender said, and was not equipped to handle electronic spoofing. He said the radar could be upgraded and antispoofing gear could be added to the gun.

Production of the gun is under way, but only 15 units have been delivered. The 117 Divads at issue would be the third production segment in the Army's contract with Ford Aerospace and Communications Corp. of Newport Beach, Calif.

"Divad experienced normal start-up problems," said Ford spokesman Susan Frutkin. "None of them are show-stoppers. Most of them have been fixed." Ford has 2,000 subcontractors in 38 states working on Divad, a potentially powerful political base to fight any Pentagon or congressional efforts to reduce or cancel the program.

Officials in the Army's Operational Test and Evaluation Agency reported that the recent tests posed "serious questions" about the Divad's performance and reliability, according to one Army source. Even relatively simple ammunition feeder mechanisms experienced problems, sources said.

A separate question swirling around Divad is whether the Army allowed Ford to charge too much for the weapon in the fixed-price contract. The price the company quoted to its subcontractors is being compared with the one negotiated with the Army, according to Army officials.

Senator GOLDWATER. Did the Divad fail the limited operational tests?

General HALL. There were specific parameters within that test that did not meet the contract specs. I should like to explain that, if I might, for just a moment, sir.

The contract specs are written in a benign environment. That is, if in system development testing you want to compare the detection range day-to-day as the design matures, it is important that the test conditions remain constant. You need to have highly dependable conditions, i.e., no clutter, no ECM, and so forth.

When we tested it in the limited test, our targets were down near the ground. There was ground clutter and ECM, therefore, the detection ranges may not have met that contract spec range.

Within an operational context, we believe it was a valid test. The results were good and the system has an opportunity to be effective. We need a further test to verify that.

Senator GOLDWATER. Mr. Sherick, was the IG involved in this test in any way?

Mr. SHERICK. No, sir. I think GAO was. The General Accounting Office, I am pretty sure was at the test.

Senator GOLDWATER. But you were not?

Mr. SHERICK. No, I was not.

Senator GOLDWATER. Now, the reporter I referred to, Mr. Wilson, is usually a pretty accurate reporter.

Do you have any idea, Dr. Wade, who told him that the Divad failed in the tests?

Dr. WADE. No, sir. In reference to the various news articles, I skimmed over most of them, but I felt they generally were so far out of bed, I had difficulty reading then. I think it was trying to drive an answer that the facts didn't support.

Senator GOLDWATER. My time is up.

Senator Levin, do you have any questions?

Senator COHEN. Mr. Chairman, could I ask , if the article was so unfair and so preposterous, why did the Secretary of Defense decide not to exercise the next option?

Dr. WADE. As I said before, the T&E results, the limited test, and all the test data before this past summer were of a different kind.

They indicated that the program, and in those categories we were concerned most about, was proceeding overall in a positive way so that we could feel and had reason to believe that by the end of next summer the full-up test with trained troops, with doctrine well developed, that we would see our way through and proceed with the program.

I don't think all the news reports presented that type of balance.

Senator GOLDWATER. Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

We heard from Mr. Sherick in the Governmental Affairs Committee the other day and part of his testimony which apparently was repeated here this afternoon was that the charts which the Army presented at DSARC-3 were, and now I am quoting Mr. Sherick, "oversimplified and, therefore, misleading and based or selective analysis of the results of the development test portion of the check test.

"They also used several overly optimistic performance assumptions."

I wonder, Dr. Wade, if you would comment directly on the allegation of the inspector general, that the charts that were presented were overly simplified and, therefore, misleading.

Dr. WADE. Senator Levin, before the actual DSARC meeting is held by the principals, there is a set of briefings, detailed discussions going back months before between the staffs of OSD and services involved.

There is also the defense concept paper that has to be formally available 3 months before the session itself. These staff sessions go back and forth and are involved with the details, the issues, of concern with the senior OSD staff.

There is then what we call a prebrief of the OSD principals together with their own staffs normally taking place like 2 weeks before the DSARC session itself, in which the program itself is presented by the service involved to the principals.

We try basically to take the time in the DSARC meeting not to identify there the concerns, in other words, get the chaff out and work on the major issues at hand. There were detailed discussions earlier with the staff. At the time we went into the DSARC with information that was available, that was assessed before the meeting, and of a kind that we felt was sufficient for the session to take place. There were briefing charts. I do not recall the details, but I do know the principals involved, particularly the Chairman, felt at that time it was appropriate to proceed with the next step of the acquisition program.

Senator LEVIN. That is not my question.

Are you saying that everything that the Army had was made available to DOD for DSARC-3 purposes?

Dr. WADE. No, I am not.

Senator LEVIN. What was not made available to you that should have been made available to you?

Dr. WADE. In my judgment, we felt we had sufficient information available to make the decision to proceed to the next step.

Senator LEVIN. Was there any information not made available to you that should have been made available to you?

Dr. WADE. I will have to go back and examine that for the record.

In my opinion, at that time there was sufficient data to proceed.

[The information follows:]

At the time of DSARC III, it certainly was the judgment of those who recommended that the system proceed into production that there was a sufficiency of information available to make that decision. As to additional information that may have been available, it is the initial judgment that no information was intentionally withheld. The final answer must wait the results of the continuing Inspector General inquiry into that issue.

Senator LEVIN. Are you saying you don't have an opinion now as to whether or not everything was made available to you that should have been?

Dr. WADE. I will say we can always use more information. The real management problem is making a decision with what you have in front of you and making sure you are right.

The point here, as we said before, is that this kind of acquisition program had a certain degree of concurrency. It was a test-fix-test program. We believed the information that was presented to us in the main was sufficient to go to the next step.

As I said before, there was a followon set of data that people felt, if then available might well have changed the decision made in May. I was one of those who on a close margin who felt that at that time the decision was correct in favor of proceeding. There were others who believed on margin that it was best not to proceed. That was the reason why in March of this year there was the request for more information, and soon, which resulted in the limited test of this past summer.

Senator LEVIN. Would you supply for the record, because I think it is important procedurally, as to whether or not, looking back, which we want you to do, the Army supplied you in DSARC-3 with everything they should have?

Dr. WADE. Yes, sir.

[The information follows:]

Considering the limited testing inherent in the approved Divad acquisition program, the Army did provide preliminary test results from developmental and operational tests conducted thus far. The test results were presented in the form of briefings and discussions prior to the formal DSARC review, since the test reports were not yet all published. Briefings and discussions can provide only those portions of the test results deemed significant, leaving details and extensive discussion to be transmitted in the formal report. I believe that the test results presented were adequate to support the DSARC decision.

Senator LEVIN. Was there a unique acquisition strategy for Divad?

Dr. WADE. Yes, sir.

Senator LEVIN. Have you gone into that today?

Dr. WADE. Yes, we have.

Senator LEVIN. Did that strategy include less Government testing, particularly operational testing?

Dr. WADE. Yes, particularly up front.

Senator LEVIN. There was less operational testing than was scheduled?

Dr. WADE. Yes, sir. I would note here one of the reasons was that there were proven subsystems that were in the program that allowed a judgment to have full up testing in the latter part of the procurement program.

Senator LEVIN. You would agree that the need for operational test results is generally recognized as basic to all DSARC-3 milestones?

Dr. WADE. With the exception of the first one.

Senator LEVIN. Would you agree that the need for operational test results is generally recognized as basic to all DSARC-3 milestones and specifically recognized as required for the Divad DSARC-3 milestone?

Dr. WADE. Yes. In general milestone one basically is identifying a mission concern; and, DSARC-1 is generally a paper study.

Specificially to answer your first question, the latter part of the program, the answer is yes.

Senator LEVIN. You don't agree with the first part of that statement?

Dr. WADE. Yes.

Senator LEVIN. You are in basic disagreement with Mr. Sherick who said that.

I am wondering if you could then extend your statement.

Mr. SHERICK. I think he said in DSARC-0, which is a concept formulation part of it, there is nothing but paper. So, there is no capability for operational testing.

As you move into developing the system, and this is what Dr. Wade said, as you get to the later DSARC, especially as you get to the production decision, there is no question that operational test data is important.

Senator LEVIN. Were operational test results specifically recognized as required for the Divad DSARC-3 milestone?

Dr. WADE. On milestone 3 there was recognition of limited amount of development and OT test before a decision.

Senator LEVIN. Were those test results in?

Dr. WADE. Yes, sir.

Senator LEVIN. Did the Secretary's Office of Program Analysis and Evaluation oppose production of Divad?

Dr. WADE. Yes, sir.

Senator LEVIN. You went ahead anyway?

Dr. WADE. Yes, sir. To the next milestone.

Senator LEVIN. Will you explain that to us?

Dr. WADE. The Office of Program Analysis and Evaluation following and during the DSARC-3 meeting made a recommendation that the program was not cost effective and that the test data did support the fact that they believed it should not proceed to production.

That was only one input from a set of principals as far as the decision process input is concerned.

Senator LEVIN. Your own office, in other words, argued against production? DOD's Office of Program Analysis and Evaluation argued against production?

Dr. WADE. The Office of Program Analysis and Evaluation, one principal of many, made an argument against moving into production.

I might note here that PA&E is only 1 out of 10.

Senator LEVIN. Who overruled them?

Dr. WADE. The normal process following the meeting is that a decision memorandum is prepared with all the coordinating principal's comment on it. PA&E commented. Other members of the committee commented.

It went forward to the Deputy Secretary of Defense who reviewed the matter and he made the decision.

Senator COHEN. Does GAO have any role in this?

Dr. WADE. No, sir. This is an internal process within DOD.

Senator LEVIN. I understand the operational testing and development testing was done at approximately the same time. Is that true?

Dr. WADE. DSARC was in May of that year. There was a limited check test early on, but most of the data that was available came in from tests of or flowing from the preceding year.

Senator LEVIN. The question is: Was an operational and development test done about the same time, not when the test results came in?

Dr. WADE. About that time, yes, sir.

Senator LEVIN. Why did it take the operational test so much longer for the results to be known than the development test?

Dr. WADE. I would have to go back and check that, Senator Levin.

Senator LEVIN. Will you let us know that also for the record?

Dr. WADE. Yes, sir.

[The information follows:]

Army personnel have stated that it was the result of normal delays in data reduction, analysis and report writing. We have uncovered no evidence to date that suggests this was not the case.

Dr. WADE. In part the answer will flow from the concurrency of the whole acquisition program.

Senator GOLDWATER. Senator Bingaman, do you have some questions?

Senator BINGAMAN. I have a couple questions, Mr. Chairman.

You have talked about the unique acquisition which signifies strategy and the concurrency.

Is this strategy that was used here really unique? Can we say that there are not other weapon programs that are as heavily weighted at the front with production before we have the test results?

Dr. WADE. Yes, sir, at this time that comment is correct.

Senator BINGAMAN. I have heard criticism that the B-1 Program has an acquisition strategy that is similar—weighed at the front end. We are buying a great many of those before we really have the test results.

Is that an unfair criticism?

Dr. WADE. Yes, sir, that is an unfair criticism.

Senator BINGAMAN. Will you explain why?

Dr. WADE. First of all, the B-1 had been under development for many, many years. We had a prototype basically ready to fly in 1977. It had many years of development behind it. The program was well proven and ready to go even when we made the decision 3 years ago to again proceed.

The concurrency was, I think, solid in the context of making an IOC that everyone believed would be made. I think you will see in a year and a half that we will make it even before the plan of 3 years ago.

There is no correlation here. Yet at the same time looking back to the time period when the Divad was put together, the fact you had a proven M-48 chassis, proven F-16 radar that had to be changed to a ground environment, and a proven 40-millimeter gun system, the decision was fair.

Senator BINGAMAN. As I understand, with respect to the B-1, all testing so far is on the prototypes. The first production model came off the line on September 4, and that will be tested next year, at which time we will have purchased 50-some odd.

Is that accurate. You don't see any analogy between that heavy production or heavy purchasing before production test?

Dr. WADE. No, sir. The comment I made is that I, frankly, have been somewhat disappointed that the Divad Program has not come along faster with higher success with all the proven components behind it. I think we need to look into that for any future program.

At the same time this correlation of the B-1 Program is just not real. B-1 is a much different type program.

Senator BINGAMAN. Mr. Wade, let me just ask a generalized question here.

We had testimony, in Senator Quayle's ad hoc task force that looks into these procurement matters, from Mr. Augustine suggesting we need to build in some additional resistance or obstacles to starting a program and then some additional obstacles to stopping it once we have started it here in the Congress.

He made a suggestion that a two-thirds vote be needed to start a program or system and a two-thirds vote would be required to stop it.

I don't know if that is a practical solution to the problem, but on the general question of whether you think some additional congressional oversight of the start-up of these systems is needed, I would be interested in your reaction.

Dr. WADE. First of all, Senator, we did as part of our basic review in the spring of 1981 review the planning process and how the resource and budget process interacted with the DSARC procedures.

There were decisions at that time, which I think were very constructive, and very positive, that any new program start which would move through a DSARC milestone zero would be considered in the Defense Resource Board process during the summer review.

Before any new start presentation would be given to the Board, the DSARC members would review the program to see in their judgment if it were suitable for DRB assessment.

Then there was another aspect. The service actually recommending the program had to assure the Board there were sufficient moneys in the program to fully justify a decision to proceed because quite often in the past we have seen programs start, and 2 or 3 years downstream, there was not sufficient money to continue. Here originated the cause for stretching and delaying programs, for programs failing, or costing a lot more money than they should have.

The second part of your question, the congressional part, I think the right approach is to make sure you start any new program with full support, full support in the context of a mission need, full support in the context of making sure moneys sufficient and programmed and there is agreement to proceed.

With that in mind the program ought to have the needed full support in deference to the start-stop problem we have seen in the past few years on many programs as resources change over time. The real time to come down on a program is at the beginning of the program to make sure it is really needed and a full commitment exists to proceed.

Senator BINGAMAN. You don't think there is any need for us to change the degree of oversight here at the beginning of the program?

You feel that the measures that are now in place provide adequate protection?

Dr. WADE. One suggestion I would offer. During normal review of programs in the spring we might put heavier emphasis and make sure Congress understands this is a new start and it is clearly identified.

In that context some additional emphasis can be provided.

As you know, when a program reaches basically milestone three and you have all the various interested parties behind it, and the case arises should we cancel it, what are the alternatives the DSARC may recommend a change, and you then can have a difficult problem in making the change.

Senator BINGAMAN. Thank you.

Mr. Chairman, I would like to put an opening statement in the record, if I could, at the appropriate place.

Senator GOLDWATER. Yes. That may be put in.

[See opening statement of Senator Bingaman, p. 3.]

Senator COHEN. I have a few more questions, Mr. Chairman, if I could.

During the course of the hearing the other day before the Government Affairs Committee some information was presented to the committee. I would like to read it to you. I believe, Mr. Sherick, either you or Mr. Conner testified to this.

> With respect to the Army, we have found that the data we reviewed omitted certain information on testing limitation and safety-related deficiencies that should have been included to demonstrate the durability and reliability characteristics of the Sergeant York, a test was planned to fire 15,000 rounds of ammunition and to travel 4,000 miles.
>
> Because of time limits, only 3,600 rounds were fired and due to frequent subsystem failures, the weapon traveled less than 300 miles. Rather than indicating the testing was the minimum required, the data sheet noted only the number of events conducted were less than planned.

It that your testimony?

Mr. SHERICK. That was GAO.

Senator COHEN. Mr. Wade, how do you react to that testimony, or General Hall?

The plan was to fire 15,000 rounds and travel 4,000 miles, but 3,600 were fired and 300 miles of travel. That is a pretty substantial shortfall of a test rather than simply passing it off or fudging it over as being the number of events conducted were less than planned.

That doesn't tell an evaluator very much. If the people in DOD are to make any kind of information assessment whether to go forward, that kind of documentation is really quite misleading, is it not?

General HALL. What happened in that particular phase of the test, the prototypes that were being used had been sued without the earlier test and it was believed, because they were prototypes, no longer were representative of what the production system would be.

They continued to gather the data and they continued to state each failure and feed that back into the system, but they did not store it as an overall capability of the system because of the competitive use on those particular prototypes at that time.

Senator COHEN. Without going into any numbers in terms of reliability and most recent tests conducted, were there more failures than the more recent one, than the previous one 3 years ago?

General HALL. It depends on what area you look at. I think three of the four areas were below the growth curves. Some showed about the same performance as they had in the tests that were conducted early in the summer, the BVT.

There is certainly room for improvement reliability across the board.

Senator COHEN. Is it fair to say some of those out of the four were below the performance 3 years ago?

General HALL. I don't believe so.

Senator COHEN. Could you make that information available to the Chair?

General HALL. Yes; we can.

[The information follows:]

DIVAD RELIABILITY

The promised improvement of production models over prototype has not been seen in the limited production testing to date. The reliability of the fire control system was on the growth curve while three of the four main subsystems—armament, power actuation and mobility—were below the growth curves. For example, the armament subsystem reliability of [deleted] demonstrated in the Limited Test is [deleted] goal, but better than prototype system results. Limited Test results were encouraging but not conclusive due to the small data base.

Senator COHEN. Also, with respect to the gun aiming accuracy, the mil deviation, I believe is substantially below what the specs called for.

Will you tell me whether or not that is accurate?

General HALL. My concern is that this is classified information.

Senator COHEN. I just want to know if they are below the specification?

General HALL. The recent limited tests showed it exceeded the spec, based on one analysis, and was within the spec for another. Let me explain that. The contract specs require a very tight tolerance on one of the target flight parameters—maneuvering limits. The miliradian error was outside the spec when they used all of the hovering helicopter data irrespective of that contract spec maneuver limitation.

When they screened it and took only that data that met that requirement in the contract spec, the miliradian accuracy met that spec.

Senator COHEN. With respect to the engagement time, both in benign and so-called ECM environment, did the last test meet up with the specs?

General HALL. I touched on this earlier, the contract specs look at a single requirement in isolation. The specification looks at detection range, but does not do so in the context of ECM and other battefield parameters.

In this phase of this test we had ECM and ground clutter. So, the detection ranges were all below what would be expected under the spec conditon.

Senator COHEN. Maybe the specs should be written to take into account the battlefield environment. You want to have a system that works perfectly, not only in a benign environment, but when you put it in a battlefield environment.

General HALL. The distinction I would make there is that in the operational test we look at performance relative to the requirement of the ROC threat, in a threat environment, whereas the contract spec has to translate that ROC into something you can write very definitive specs on contractually.

Senator COHEN. What you are saying is that the last test would have met the benign environment had there been a benign environment, but there wasn't because you had some clutter.

General HALL. Yes, sir.

Senator COHEN. You are saying it would have met the contract specs, but for the clutter?

General HALL. Yes.

Senator COHEN. What about the reaction time? You say that measured up to specification as well?

General HALL. Reaction time was satisfactory for helicopter targets, but was not for fixed-wing targets.

Senator COHEN. Would it be a fair or unfair statement to say in the ECM environment, the expected battlefield condition engagement, the results against hovering helicopters were well below what is called for by the specs?

General HALL. Yes, sir.

Senator COHEN. It would be a fair statement?

General HALL. The reaction time for helicopters spec requirements.

Senator COHEN. Does that mean below it or not?

General HALL. I should provide that information to you since we are approaching a classified area. Let me also relate that we look at the range at which you can engage that target, which is preceded by detection and a system reaction time. We have not had a chance to test the Divad in a realistic operational environment but will do that next spring when trained operators are aboard. Training of the operators to function in that environment is an important aspect.

[The information follows:]

REACTION TIME AGAINST HOVERING HELICOPTERS

In developmental testing, the contract specification time of [deleted] to engage an unmasking target was met for helicopter targets. In the Limited Test, range data was not available to determine unmask to detect times. Estimating a delay for that unmeasured portion of the overall reaction time and combining it with Limited Test results, indicates that Divad meets the [deleted] required for helicopters.

Senator COHEN. The testimony given before the Government Affairs Committee indicated there was serious concern, about the ability of the Divad to engage high rated attack aircraft coming at low altitude and concern about hovering helicopters, both. This is from the GAO.

General HALL. Was that based on limited test or on earlier tests?

Senator COHEN. That I don't know. I assume it was based on earlier tests.

GAO recommended again exercise of option II which is one reason I asked, your response to Senator Levin, what GAO's role in this was because GAO recommended again exercise of option II.

I assume that is one of the factors taken into account. Apparently GAO has not looked closely at this information, the latest test results, but there was concern expressed even at that meeting based upon what they had heard about the most recent results.

Perhaps we can clear this up by your supplying the information to the chairman.

One final point, Mr. Chairman, warranties, something which has been discussed quite a bit in the Congress.

What is the situation with respect to warranties?

I am told this is a contract in which there were warranties made by the manufacturer.

How does that operate in the situation? Suppose you don't exercise your option within a specified time? What happens with respect to the warranties?

Dr. WADE. In reference to options I and II, the warranties certainly are in effect.

With option III, if we do not pick up the option by November 4, presumably we will have to open up that element in reference to how we work out the follow-on with the contractor in delaying option III.

It would be my expectation that we both have to have a meeting of the minds to get this problem with option III solved. It will be our position, my position that we will maintain the same, general profile with the warranty in option III whether or not the option is delayed.

Senator COHEN. It would be legally possible, if you don't exercise the option by November 4 and you continue it over to next spring, that the warranty at that particular point expires and you have to negotiate a new fixed-price contract?

Dr. WADE. That is a possibility, yes.

Senator COHEN. Is that one of the pressures under which you were operating before because the price was fixed?

Dr. WADE. It was an interest in the sense of meeting the November 4 date.

Our major interest still is to make sure the program is viable in its totality.

Senator COHEN. If you determined that the system doesn't measure up to the specifications required, is it your understanding that Ford is responsible to do what under the contract?

Dr. WADE. Ford will meet the specs to those units under contract. If these units do not meet specs, Ford will fix them at their own cost.

Senator COHEN. That is all, Mr. Chairman.

Senator GOLDWATER. Senator Wilson?

Senator WILSON. Thank you, Mr. Chairman.

Secretary Wade, do I understand that you said PA&E recommended against acquisition on the basis of its not being cost effective?

Dr. WADE. I think the best I can say at this time is in reference to the test data that was presented to the DSARC principals the PK, the reaction time, reliability, that PA&E felt overall the system was not ready for procurement, and so recommended that position to the chairman.

In the context of reaction time, lethality, cost and affordability, the three pieces certainly are related.

Senator WILSON. What they are saying is they didn't think they were prepared to meet the test of doing what they were supposed to do?

Dr. WADE. Yes, sir.

Also there was a fundamental flavor of some of the staff within PA&E that a gun system per se was not the right direction to go with. It had to prove its worth and prove its worth more than the specifications fixed in the contract.

Senator WILSON. That was the basis for comparison?

Dr. WADE. Yes, sir. That is my own judgment of their position. I can't speak here formally for PA&E. As I said before, they had one input to the process. Other input, for example, came from T&E, J-Staff, MI&L, policy and acquisition management. The process of individuals made up the recommendation in which PA&E made a very important input and we recognized it.

Senator WILSON. Let me pursue your earlier response to the question I asked in my statement.

The alternatives that you have said included going ahead with further operational testing and in the event that they seemed to cure all the perceived problems, you then had the option of accelerating?

Dr. WADE. That is possible, yes, sir.

Senator WILSON. To try to recoup part of the loss?

Dr. WADE. Part of the time loss in deployed units.

Senator WILSON. Let us assume that it goes sour. What are your other alternatives?

Dr. WADE. If the program goes sour, of course we will cancel the program following the tests. Then we will have to look toward what is a near term alternative to fix the problem in the sense of giving us time before we turn on a new developmental program and procure a new system in the 1990's.

One alternative would be to stay with what we have right now, the Vulcan system. It is limited in capability in the context of all-weather and nighttime capability. It doesn't have the lethality or the range of the Divad.

Our alternative options are not all that attractive. Some other options would be to put the Stinger or TOW on the Bradley. We have looked at that and believe it is not all that viable.

Nevertheless, the most important factor now in front of us is to make sure the technical specifications of the contract—and the ROC's—are met before making the next decision.

The alternatives are not attractive. It gets back to the point I made earlier. As we proceed to DSARC-O, that is the time to make the decision whether the general approach is viable or not, early as possible in the cycle.

Senator WILSON. Is there any way you can pursue the point that Senator Cohen and I have both raised?

I think one of the most attractive things about the existing contract is this requirement that the contractor make good at his own cost any deficiences.

Can you, through this interim period of increased operational testing, preserve that benefit by some independent negotiation if you don't meet the option III deadline?

Dr. WADE. My expectation, although the negotiations are underway right now, would be that the warranties we have in effect with this program are the same kind we should look forward to in any extension of program options. That is also the sense given us by the recent direction of the Congress.

The contract made by both sides and the specs in it are going to be met by those specs through warranties, if needed.

Senator WILSON. Have they met those specs to date?

Dr. WADE. Yes, sir, generally they have. We really aren't that far along, to conclusively answer all the pieces.

Any shortfalls they have agreed to go back and fix. To say it differently, we have so few products in our hands to test that we don't know and can't have the full answer.

Senator WILSON. Mr. Chairman, I think it would be useful to get for the record what the performance of Ford has been to date with respect to warranty on options I and II.

Senator GOLDWATER. Can you supply that?

Dr. WADE. Yes, sir.

[The information follows:]

The warranties provided by the Army contract with Ford AAC Corp covers design/integration deficiencies in performance and reliability against the contract specifications. The time frame for the warranty extends from IPT. (Initial Production Tests) plus six months. Since IPT has just started (IPT planned for October 1984 through March 1985) no deficiencies have been reported to Ford and therefore, no Ford performance on the warranty is available.

Senator GOLDWATER. Time is moving along and we are due for a vote at any time and probably many more. I would like to hurry this along if we can.

There are a number of questions that the Chair has and some record insertions. I will ask the panel to answer these questions which will be put in the hearing record.

I want to thank you gentlemen.

Senator LEVIN. Could I ask a few follow-up questions?

Are you going to let them go?

Senator GOLDWATER. Go ahead, Senator Levin.

Senator **Levin**. I have a few additional questions, Mr. Chairman.

Mr. Chairman, stripping it to its bare essentials for my purposes, it seems to me there are two issues, one is DOD's judgment to proceed without the operational test results. That is one issue.

You say you were reasonable in doing so. The Inspector General said you should not have done so, you violated your own regulations. There is a fundamental difference on that one, but I want to lay that aside for the moment.

To me an equally fundamental issue is whether or not when you did proceed, you had all the information available to you which you should have had. In a way that is a more disturbing issue to me than the first issue.

I want to ask now both Mr. Sherick and General Hall this question.

Was there anything, Mr. Sherick, that the Army knew that was not provided to the DOD Review Office, the DSARC panel?

Mr. **Sherick**. As far as I could find, there was nothing. They had the results of the operational test which had been part of the check test. I think it was concluded the end of January, but the data was not reduced until sometime in November.

I don't know and we never did get an explanation on why it took so long to reduce the operational test data as opposed to the development test data. It was due in March and the one was available to the DSARC and the other was not.

The only comment we got and maybe you can ask General Wagner when he is here why did they have that delay? They just said it was impossible to reduce the data.

Senator **Levin**. Putting aside that delay, you are telling us that as far as you are concerned, and you have reviewed this, there was nothing the Army knew that they did not provide?

Mr. **Sherick**. That is right. We couldn't find anything that they purposely didn't provide.

Senator **Levin**. The question is: Did they know anything that they did not provide to the DOD?

Mr. **Sherick**. We couldn't prove that they knew anything that they didn't provide.

Senator **Levin**. My last question has to do with the warranty.

Is there a performance warranty or is it just a workmanship warranty?

Dr. **Wade**. Contract specs.

Senator **Levin**. Performance to contract specs?

Dr. **Wade**. That is right.

Senator **Levin**. I do have some additional questions for the record for all the parties, Mr. Chairman.

Senator **Goldwater**. We will submit these questions for these gentlemen.

I want to thank you for being here. You have been most helpful.

I just want to call the attention of the committee to the vote. I am going to stay here. You can come back after you vote to listen to the Army panel.

With the growing inventory of the Soviet helicopters, we do not have adequate defense against them with the weapons we have today.

I recognized in my opening statement that there probably are deficiencies in this weapon, but I think it has such a great potential that we should do all we can to encourage going ahead with the experimenting and the testing.

I was present at the last company testing when it was turned over to the Army for their field testing. I am very, very impressed with the weapon.

I will ask you gentlemen to be excused. Thank you. It is an honor having you.

Lt. Gen. Louis Wagner, Deputy Chief of Staff for Research, Development and Acquisition, and Lt. Gen. Fred Mahaffey, Deputy Chief of Staff for Operations and Plans, Department of the Army.

General Wagner, I believe you have a statement. You may put it in the record as if read, or you may read it or summarize it.

STATEMENT OF LT. GEN. LOUIS C. WAGNER, JR., DEPUTY CHIEF OF STAFF FOR RESEARCH, DEVELOPMENT AND ACQUISITION, DEPARTMENT OF THE ARMY

General **Wagner**. Yes, sir, Mr. Chairman.

It is an honor to be here this afternoon.

I have submitted a detailed statement. I would like to submit that for the record because many of the points I covered in my statement and was to cover in my briefing have already been covered. I will quickly go past those.

There are certain points that I believe should be highlighted from the Army aspect as to how this program is going and with your permission I will do that at this time.

Senator **Goldwater**. Go right ahead.

General **Wagner**. There are three areas in which the Army has come under a lot of flak in this particular program. They have been brought out in the previous testimony today.

Sergeant York Issues

DOD IG reports.
Limited test results.
Option 3 award.

First, I will discuss the DOD IG reports, limited test results and option III award. I am going to look at each of those areas from the Army aspect to give you our feeling on them.

New Gun

Lethal.
Range considerably beyond Vulcan.
Mobile.
Survivable.
All weather.
Day/night.

Basically, as you pointed out very clearly, we have a very great need for an air defense gun at the present time. I can assure you that the threat that we faced, both in the fixed wing and rotary wing when this program started in 1977 has doubled by this time, both in its capability and quantity that are out there.

We need this gun. We have to have a gun that is lethal on the battlefield and with a range considerably beyond the current

Vulcan. The Vulcan today is not a sufficient threat against the enemy fixed wing or attack helicopters to hold them off.

I can't cover the details of that range in open session, but I think you are familiar with those.

We have to have a system that is mobile enough to keep up on the air/land battlefield with the M-1 tank, and M-2 and M-3 vehicles. The Vulcan cannot do that.

It has to be survivable on that same battlefield. It has to have an all weather capability because we have given that capability to our other fighting vehicles on the battlefield, but we don't have it in this system. The Soviets it appears have that capability in their attack aircraft. Finally, it has to have day and night capability.

VULCAN

Not lethal against known threats.
Range below what is required.
Cannot survive.
Visual only.

This is what we have out there today, the Vulcan. I believe most of you are familiar with it and these are its shortfalls. It won't kill the known threat on the lethal battlefields of the world. It has a range below what is required. It cannot survive and it has a visual capability only.

This is what we believe the answer is, the Sergeant York. It is built on a M-48 chassis which gives it good cross-country mobility. It gives it survivability on the battlefield, particularly against mines.

We knew when we started in this program that it was risky whether we could field it in the scheduled time. We believed because it was using a radar from the F-16, BOFOR's guns that you are all familiar with, and other standard components, that only required integrating them, that it was worth the risk to use an innovative accelerated approach.

ACQUISITION STRATEGY FEATURES

Higher risk development program to save time and money: Accelerated strategy, congressional support; concurrency in all program aspects; and integrated logistics support development intentionally deferred.

Risk protection: Competitive shoot-off; fixed price incentive-type contract; trade off performance to meet cost/schedule; and strong contractual protection-performance warranty.

It was working with the support of OSD and working with the support of Congress that we started in with this program.

We have already talked about these as far as the fact that we knew we were going to have some problems. For example, we put off the integrated logistics support which means pulling together the training program for your mechanics, and so forth, during the early phases so that we could get this vehicle fielded quickly.

That has given us some problems in operational testing because we had to use contract maintenance instead of green suit maintenance.

The risk protection of the contract we have covered this afternoon. I want to emphasize that the fixed-price incentive type contract was very important to holding the cost down on this program. We think that the program which took about 5 years out of the normal development cycle probably saved the taxpayers about $1 billion.

I would also tell you that on our contractual protection, this question has been asked a lot today, our primary protection here is that we are completely covered until the initial production tests are completed.

I would also say that we are attempting to negotiate right now with Ford the extension of that contract if we are required to slow down the production and not let option III. I can't guarantee that will occur, but the position of the Army is that we must have the original contract warranty if we are to continue this program.

SERGEANT YORK TESTING

Acquisition strategy required "limited testing."
Development/operational testers involved from start of program.
Test program evolved in response to: Concerns and problems.
Test program is working.

We knew that there was some risk if we limited our tests, there was no doubt about that. We know it was a very concurrent test program. The Army felt that with the dollars to be saved and the need on the battlefield, it was worth the risk.

We always planned on testing it, fixing it and then if it didn't come up to the standards we wanted, we would have to fix it again. With the warranty we had we felt that was a safe risk because Ford was required to meet all the contract specifications within the ceiling price.

So, really, the Army was not caught in one of those contracts where we would have to pay for all of the fixes. We think that the test program is working today because the problems we have found are being fixed and we think by the time we get into our final testing, it will be a satisfactory system on the battlefield.

Now, let us look at those DOD IG reports.

DOD IG REPORTS

Hotline complaint.
$84 million excess cost to Army.

First, the hotline complaint and the alleged $84 million excess cost to the Army.

DOD IG REPORT HOTLINE COMPLAINT

Data overstated by Army: Lethality and reaction time.
Data not presented at DSARC III: Identification friend or foe; reliability; threat assessment; electronic countermeasures; and personnel hazards.

The hotline complaint, and we talked a lot about this this afternood, was in these two areas, first that we overstated the lethality of the system and the reaction time and that these items were not presented to the DSARC at all.

Dr. Wade has laid out clearly that the DSARC process is almost analogous to the process we follow when presenting budgets on the Hill. We discuss with your staff all of the minute details of the budget. Then when the decision is made, they present to you those key issues that you have to make a decision on, so that you don't have to go through multitudes of data.

The same thing happens in a DSARC. For example, on the test data of the Operational Test [OT] that was not completed, that raw data was presented to the OSD staff, but it takes months to reduce all of the data that is collected in an OT-type test.

In fact, I have some of the individuals here this afternoon, if we get into questions, that can tell you the difficulty of that.

When that raw data was presented to the staffs of the DSARC, they were not able to reduce it just as we were not able to reduce it in the time allowed. Although I was not involved at the time in the data that was given to OSD, because I was not even in Washington then, I have gone back and looked at it.

So far as I can tell, I agree with Mr. Sherick that no data that we had available was withheld. As best I can reconstruct the DSARC itself, the IFF and the personnel hazards were not discussed, although they had been discussed with the staffs of the DSARC members. The rest of these items were discussed during the DSARC deliberations.

Senator **Goldwater**. I might say I have that problem across the board, not just yourself.

DSARC Process

Not only DSARC itself.

Includes all those actions leading up to the DSARC: Prebriefs; deskside discussions; Army documents; and above provided to OSD staff.

Designed to weed out those issues not requiring DSARC action/decision.

General **Wagner**. You know what the DSARC process is. I have explained it so I am not going to go into that any more.

We feel that the key issues were discussed at the DSARC with the type of program that we were embarking on.

DOD IG Hotline Complaint Lethality Overstated by 300 percent

False.

Allegation based on OSD generated data: Not in agreement with Army data.

Post DSARC III test data much closer to Army data than to OSD data.

When we looked at the DOD hotline complaint, there were two allegations with the first on lethality. We don't believe that the Army overstated it by 300 percent as they said. I can give you any two analysis who can take the same data and, because of the way they analyze it, draw different conclusions and come up with different readings as to what that particular data means.

I believe there was honest disagreement in this case between what the data told us, the way we looked at it, and the way program analysis and evaluation [PA&E] analysts looked at it on OSD.

When we looked at the data generated since that time, our lethality data was very close to what the test data has shown up to this time. It gets down into the number of rounds, for example, you fire in a burst—it can give you different types of lethality data—the range that you engage targets, for example 1,000 meters, 2,000 meters or in between.

So, it is not a simple thing to come up with the curves that analysts base conclusions on. We believe in our own minds that that data was clear. I will say when I looked at the minutes of the DSARC meeting that we have available, we presented our charts, PA&E presented their charts and both were heard out before the DSARC members made a decision.

DOD IG HOTLINE COMPLAINT REACTION TIME OVERSTATED BY 400 PERCENT

False.
Faulty analysis.
Included "waiting time" in reaction time definition.

The next allegation is our reaction time was overstated by 400 percent. We again think that was faulty analysis. What OSD PA&E did was to include waiting time. What waiting time is—if you remember when you were on the Sergeant York, you detect the target. If that target is out of the range of the gun, for example, a helicopter coming in or fixed wing, you have to wait until it gets within the range of the gun before you can engage it.

We feel that that time should not be included in the reaction time. The reaction time should be that time measured from when you can engage it and do engage it.

Just to complicate it, sir, in our specification for this in the contract we said that the gun will be turned around 180 degrees from the direction that you are going to engage the enemy, then it will detect him, come back around and engage him.

That is probably not too realistic in wartime because we would know generally where the enemy is coming from, but we have thrown that complication in the specification.

DOD IG REPORT $84 MILLION EXCESS COST TO ARMY

Interpretation.
Competition yielded best possible price
Factual errors in finding.

Again, there is a lot of interpretation on the alleged $84 million excess cost to the Army. We believe the competition did give us the best possible price. I will tell you this wasn't done in a hurry. The Army negotiated over a period of nine months on this contract. The best and final presented by Ford was reduced by $191 million during those negotiations.

The DOD IG was given data we have on auditing of the subs. In some cases they accepted it and in some they did not. We believe that in general we got a good contract. There were some factual errors in their findings.

If you look at the BOFOR data they had, we found that they said that it was over, we said it was under. Actually, it was a difference between current year dollars and escalated dollars.

Ford is going to pay about $7 million more than that data showed instead of $18 million less as the IG believed.

There are a number of others cases like that that we can discuss if you wish.

SERGEANT YORK LIMITED TEST

July 20–August 2, 1984, test period.
Rolling desert terrain—Fort Bliss, TX.
Three production fire units.
Soldier crews.

The limited test that General Hall talked about, which was conducted 20 July to 2 August, only used three Sergeant Yorks, very early production models: No. 1, No. 5, and No. 6.

Because the test was done so quickly the crews were not trained very well. We didn't even have our own mechanics. However, we believe a lot of the data derived from the test has been helpful.

Incidentally, two of the Sergeants are here who were members of the test crew and will be available to answer your questions. They will tell you what they really think of the system.

Senator GOLDWATER. I recognized them.

LIMITED TEST RESULTS

Test area	Results
Multiple-target performance fixed wing and helicopter:	
Benign	80 to 90 percent engaged.
ECM	60 to 70 percent engaged.
Hovering helicopter:	
Benign	Loc. No. 1: [1] 15 to 25 percent; Loc. No. 2: 80 to 90 percent; combined: 60 to 70 percent.
ECM	Loc. No. 1: [1] 10 to 20 percent; Loc. No. 2: 70 to 80 percent; combined: 40 to 50 percent.
False targets	Minimal problem.
Kill performance against:	
Helicopter	Above ROC.
Fixed wing	No test.
Identification friend or foe	100 percent correct ID.
Ground firing:	
Moving	Out to 2 KM.
Stationary	Out to 3 KM.
Tactical maneuverability	Moved/communicated with supported forces.
Reliability	Not as good as expected—needs work.

[1] Site location geometry problems.

General WAGNER. These are some of the limited test results. We keep talking about the benign environment and ECM environment. The Army designated in the contract the benign environment because it would be virtually impossible for a contractor to measure what his results could be in an ECM environment.

You have to go beyond what you require in a benign environment and then reduce that for expected results in an ECM environment. But to hold the contractor to a contract is the reason you specify the benign environment.

Obviously war is not going to be that way. I point out though, that the ECM threat has changed and will continue to change as you well know.

When we build an aircraft, for example, we have to continually update our ECM capability because that threat changes.

We found that we could engage about 80 to 90 percent of the target passes during this test in a benign environment, and about 60 to 70 percent in an ECM environment. There were over 500 target passes. We believe that is good performance.

I will say that against a hovering helicopter, we are not completely satisfied. We are satisfied with one of the test vehicles, but we are not satisfied with the other one.

You can see that our results were quite different. At one of the locations in a benign environment we only got 15 to 25 percent, about 10 to 20 in the ECM environment. At the other location the system engaged 80 to 90 percent in the benign case and 70 to 80 percent in the ECM environment.

That is the reason that you will see that in the combined environment the tests fell in the 40- to 50-percent category. We think that might have been the location of this vehicle which was an anomaly and we are trying to determine more about the test. We are going to want to follow up much more in that area.

I am going to talk more about false targets later because they have been confused with decoys. There is quite a bit of difference between the two. I want to make that clear.

The kill performance against a helicopter is slightly above the ROC. As General Hall said, we couldn't measure the kill performance against the fixed wing targets because the instrumentation broke down.

However, because of other test results and with the system proven tracking ability, we believe we would have been close to the ROC requirement in that particular area.

The IFF test surprised us because it came out so good, less than 1 percent errors. You could say 100 percent of the IFF passes worked properly. I would have to say that is better than our system normally works, as you well know. We were surprised by that and happy.

In the ground firing mode the Army wasn't too smart when we wrote the specification because we said we wanted it to engage targets at the maximum range of the system for an aircraft.

We don't engage targets at that range with tanks in the Army. Yet we were asking this system to do it. So, when we looked at realistic ranges where we would fire at enemy ground targets, about 2 kilometers at moving targets and 3 kilometers for stationary targets, we found that we had a satisfactory number of hits.

That was confirmed, incidentally, by OSD. In the tactical manueverability area we found we could move with an armored cavalry regiment at Fort Bliss, the unit was able to execute command and control over the Sergeant York vehicles down there during those exercises.

It is important that it can operate on the battlefield with tanks, personnel carriers, and cavalry vehicles. We are not fully satisfied yet in the reliability area. We agree with the people from OSD testing that we still have work to do in that area.

We are close to the reliability curves. As far as the number of rounds before stoppages, we are still trying to raise that. We believe that that measure is beginning to come up now with some of the fixes we are making to the system.

It still is not where we want it and we admit that.

OVERALL CONCLUSION

The observed performance of the Sergeant York Gun System, operated by soldier crews, in the limited test supports the estimates of performance which led to the initial decision to initiate the materiel acquisition process.

The overall conclusion of the test by our independent Operational Test and Evaluation Agency is shown here. The observed performance of the Sergeant York Gun System operated by soldier crews in the limited test supports the estimates of performance which led to the initial decision to initiate the material acquisition process.

It is important that you understand that our Operational Test and Evaluation Agency is not under the control of the developer. I am the Deputy Chief of Staff Research and Development, but I have no control over that organization. They answer to the Vice Chief of Staff and Chief of Staff of the Army.

As far as they are concerned, they are an independent agency. For example, when we have an ASARC meeting, they come into that ASARC and independently present their views on what the testing results show.

It is not the project manager or the developer that does that.

LIMITED TEST ISSUES

Target reflectors on helicopter.
Decoys/electronic spoofing.
System reaction time.

There were three major issues in our limited test.

One, that we used target reflectors on helicopters, two, the decoys/electronic spoofing or false target problem, and finally, the system reaction time.

I will tell you up front that if I had been the operational tester, I would not have executed the simulated hovering helicopter test, but I will explain to you, because it has been in the newspaper so much, what it amounted to.

TARGET REFLECTORS ON HELICOPTER

Nonflyable helicopter for live fire mission.
Electric motors needed to drive rotor.
Low rotor speed coupled with only two blades required augmentation.
Target augmentation accepted practice in test communities; however lacked degree of realism.

We didn't have a drone helicopter that could be used. So, we took a helicopter that did not have an engine in it, put some electric motors on it to turn the rotor and placed it in an elevated position on the ground, at a long range but not at the maximum range of the system.

Then they attempted to engage it in the radar automatic mode. When they did that, the system detected the target, but because the radar signature was not sufficient or didn't really look like a helicopter, it did not identify it as a priority one target so that it would be engaged.

That is not surprising because they couldn't crank the rotor at a normal speed and it didn't even have a tail rotor on it. The system uses Doppler return of the radar signal to identify the helicopter, so it didn't work. To get it to work, they put some reflectors on it to try to simulate a helicopter.

Although that is acceptable in the test community, I question whether that is really the way to go. When I talked to Sergeant Masterson about that, he said no doubt when he detected it, he could have engaged it in optical mode because they saw it, but because they were required to engage it in the radar mode, it didn't engage. After three times it did engage the target, but I wouldn't put any great credence it it.

Decoys/Electronic Spoofing

No decoys used.
False targets.
Little difficulty identifying—none engaged.
Little impact on operational performance.
System performance better than earlier testing.

You have read a lot in the newspapers about decoys. We are not really talking about decoys. What we are talking about are false targets, those targets that appear on the radar screen that are not actually incoming enemy targets. It still has more of those false targets than we would desire and the contractor is working on the software to reduce that problem.

I will also tell you a false target only causes you a problem if you can't identify it as a false target and engage it instead of the true target.

Again, I am going to defer to the people who were there, but the false targets, while they may reduce the reaction time some because, as the radar makes additional sweeps, it is conceivable that you would spend an extra 2 or 3 seconds eliminating those false targets which did not cause a problem and none of them were engaged as an actual target.

That doesn't mean we are saying everything is good in that area. The Army is continuing to work on the software, but we did find out that we could properly use this system, identify those false targets and engage the real enemy.

ASSERTION—WHAT WAS AND IS KNOWN AND REQUIREMENT

	DT/OT	Check	EPUT	DVT	LT	
Reaction time—inadequate						ROC: 8 seconds unmask-to-fire
Technical (Radar mode):						
Fixed wing	13.2	8.9	8.7	9.8	N/A	
Rotary wing (hover)	N/A	7.6	7.3	9.3	N/A	
Operational (all system modes):						
Fixed wing	13	[1] 20	N/A	N/A	11–19	
Rotary wing (hover/ingress)	8	[1] 16	N/A	N/A	10–11	

[1] Not available at DSARC.

Finally, there was an assertion that the reaction time was inadequate. I will tell you that this information was classified. However, the Army decided it is more important to get it out on the table and that is the reason I am presenting it today.

The requirement that the Army wrote was that it had to have a reaction time of 8 seconds after the rotary wing helicopter popped up or the fixed wing came into the range of the system so that it could be engaged.

Also, when we put it in the specs, we said it must be pointed 180 degrees in the opposite direction. The Army didn't really have any enemy threat information to base that on as far as I could tell when I went back and dug into how they came up with this specification in the first place. There is probably some reason they did in 1977, but I have not been able to find anyone that can tell me.

I have here the testing that we had prior to the 1982 DSARC, the OT testing was only in its raw form at the DSARC and wasn't considered in detail. There was a check test after that and a development validation test, and finally, the limited test that I have discussed today.

The one test that it did very poorly in was the check test when it took about 20 seconds to engage a fixed wing and about 16 seconds to engage a rotary wing. The rest of them have been in a category something like we see here.

Test data indicates that it took about 11 to 19 seconds to engage a fixed wing target and hereabout 10 to 11 for the rotary wing. We have run a lot of analyses on this to see that it is satisfactory.

War games show that for a rotary wing aircraft if you can engage him within 16 seconds, you are probably going to destroy him and he is not going to be able to destroy you or those vital vehicles that you are protecting.

In the fixed wing arena we don't have sufficient background to make that determination, but it also appears that that 16 seconds is probably about right. We are continuing analysis in that area.

I would defer to General Hall who is an aviator and says he believes that it is probably satisfactory to engage that type of target.

So, we feel our engagement times, although they are not what we had in our initial ROC, are probably satisfactory for this type system.

OPERATIONAL TESTING

Army recognizes concern.
Plans underway to conduct operational testing next year.
First of two follow-on operational test and evaluations.

We recognize the concerns in the operational test area and have developed the test program as we have gone along and have seen problems in the development of this system. Tests were added when necessary.

We are continuing to do that and are actually going to have follow-on evaluations in the operational arena starting in the spring of next year and continuing right into 1986.

We are going to run comparison tests with vehicles that come off the production line later with those that came off earlier to see if there has been an improvement or if there is something wrong in the production that we need to clean up.

SERGEANT YORK

Two production options exercised—146 fire units.
Third option (117 fire units) is fiscal year 1984 procurement (not exercised): originally planned for may 1984 award; award slipped due to contractor's late delivery of first fire unit; Army's intent was to delay award only long enough to insure contractor can meet revised production schedule; and contractor did not meet production rate in August or September.

The option 3 award has been talked about a lot by Dr. Wade. So, I don't think I need to go into much of it except to tell you that the contractor did not meet his production rate in August. He did not meet his production rate in September. Since he had not caught up, we would have had to consider lengthening the delivery schedule.

This is one of the factors we are using in our contract negotiations now.

SEC DEF DECISION

Continue to review alternatives under the fiscal year 1984 contract option 3.
Reduce Government exposure at no additional costs.
Requested limited funding for fiscal year 1985.

This is the Secretary of Defense's decision as was pointed out by Dr. Wade.

I have also been asked who in the Army played in the Secretary of Defense decision and was the Army given a chance to express its views. The Chief of Staff of the Army and Secretary of the Army played in all of these meetings with the Secretary of Defense and were given every opportunity to present their views.

They both believe strongly we need this system and as soon as we can possibly get it, but they are not going to field a system that won't meet the needs of the soldier. We believe the Sergeant York will meet the needs of the soldier as we continue our testing and fixes.

SERGEANT YORK—HISTORICALLY, 10-20 YEARS TO FIELD MOST SYSTEMS

Sergeant York strategy reduces time/cost: Succeeded on both counts; Sergeant York testing is working, identifies problems/fixes, and testing doesn't cease with production.

Historically it has taken us 10 to 12 years to field any system. We know when we went into this there was a risk and we were going to have to make some of these fixes as we went along.

As a result, it is very important that we are continuing our testing. We are going to continue that right into production to make sure that we get the piece of equipment we need out there for the soldier.

SERGEANT YORK

Sergeant York urgently needed.
Fills critical air defenses void for Army's front-line maneuver forces.

I think our bottom line, sir, is exactly what you said at the beginning. We needed this system 7 years ago when we started it. We need it worse today than we needed it at that time.

We believe that with the fixes we are putting in it and with our continuing testing, it will give us the system we need for the soldier in the field.

Thank you, sir. I am ready for your questions.

[The prepared statement of General Wagner follows:]

PREPARED STATEMENT BY LT. GEN. LOUIS C. WAGNER, JR., OFFICE, DEPUTY CHIEF OF STAFF FOR RESEARCH, DEVELOPMENT, AND ACQUISITION, U.S. ARMY

Mr. Chairman, I am Lieutenant General Wagner, Deputy Chief of Staff for Research, Development, and Acquisition. I am here today to provide you with a Sergeant York Air Defense Gun System Program overview.

The Army has a critical need for an air defense gun which can defeat the current and projected air threat to our heavy divisions and armored cavalry units. The gun must:

Be able to destroy enemy close air support fixed wing and rotary wing aircraft which we expect will attack our heavy divisions;

Have a range considerably beyond Vulcan;

Be mobile enough to maintain air defense for forward combat units;

Be able to survive in the combat environment of a heavy division; and

Be effective in an all weather, day or night environment.

Our current air defense gun, the Vulcan, which is a 15-year old interim solution, does not meet these requirements:

Its lethality is questionable against known threats such as the Hind helicopter;

Its effective range is far less than needed;

It cannot survive in the combat environment of the heavy division; and

It has an extremely limited night/adverse weather, capability.

The Sergeant York air defense gun system meets the urgent need of the Army. It will provide effective Air defense for divisional maneuver elements, principally armored and mechanized infantry, against attack by armed helicopters and high performance close air support, fixed wing aircraft. It will be capable of traversing the same terrain as weapon systems being supported.

The Sergeant York gun system is a completely integrated fully autonomous system mounted on a modified M48A5 Chassis. It features twin NATO standard 40MM guns for main armament, point detonating and proximity fuzed ammunition and uses an advanced radar-directed fire control system.

The Sergeant York air defense gun system is being procured under an accelerated acquisition strategy. This strategy features:

(1) Higher risk development program to save time and money.—This feature was congressionally supported and implemented by the Department of Defense and the Army. It includes concurrency in all program aspects which necessitates the continuation of some engineering efforts as the Sergeant York system is brought into production (i.e., test-fix-test). This approach was and is believed acceptable because the system is an integration of proven components, for example the F16 radar, BOFORS 40 MM gun and M48A5 chassis, rather than a typical development program. Included in the overall strategy was a conscious decision to defer integrated logistic support (ILS) development until an ultimate winner, Ford Aerospace and Communications Corporation (FACC) was selected. The objective was to save money during the competition phase by not funding the two competing contractors for complete ILS.

(2) Risk protection.—The Development phase (phase I) was a "hands-off" competition with winner take all. As part of the selection process, each contractor bid upfront for the production phase (phase II) a fixed price, incentive contract which included a base year and three separate yearly production options. The phase II proposals addressed 12 firm requirements and 43 other requirements which the contractors were allowed to trade-off for cost and schedule benefits. In phase II, the current effort, risk protection is achieved through:

(a) A fixed price incentive type contract with FACC having total system responsibility;

(b) Incorporation of the proposed trade-off requirements for cost and schedule protection and the 12 firm requirements as specific non-tradeable contractual specifications; and

(c) The strong contractual warranty which provides the Government excellent protection. If system requirements are not met in the initial production tests, the contractor, within the contract ceiling price, must: (1) Fix the problem; (2) retrofit all production systems; and (3) incorporate the changes into future production systems. This provision drives FACC to meet all requirements up-front rather than face a cost penalty (fix, retrofit, and incorporate) at a later date. This provision also meets the intent of the recently passed Andrews bill except in the area of having a separately priced contract line item which quantifies the warranty cost. This exception, however, is the result of the contract having been awarded several years before the bill was enacted.

One price paid for this accelerated acquisition strategy is defined by some as "limited testing." The results of this "limited testing" have been referred to by critics as indicative of fundamental problems. The test strategy was clear from the initiation of the program. Testing throughout the life of the program has involved both the operational and developmental test communities and has provided both the government and the contractor with the data needed to adequately assess problems and determine what actions are required to resolve them.

The Sergeant York test program has continued to evolve during the development in response to concerns raised and problems discovered as the program progressed. The test program can be described by three major categories: Original strategy; additions prior to the Defense Systems Acquisition Review Council (DSARC) III; and additions since DSARC III. Each category has distinct tests which address specific areas of interest.

ORIGINAL STRATEGY

Development/operational (DT/OT) II—July-November 1980.
Check test—November 1981-January 1982.
Initial production tests (IPT)—October 1984-March 1985.
Comparison test (CPT I)—October 1985-March 1986.
Follow on operational test and evaluation (FOT&E)—January-March 1985.

ADDITIONS PRIOR TO DSARC III

RAM-D test—February-April 1982.
Contractor engineering test—April-December 1982.
4,000 mile chassis test—December 1981-February 1982.
Engineering prototype unit testing (EPUT)—June-August 1983.
Built-in-test (BIT) demonstrations—May 1982, April 1983, October 1983, March 1985, February 1986.
Publications verification-physical teardown/logistic demonstration—September 1984-June 1985.
Cold region test—October 1985-March 1986.

ADDITIONS AFTER DSARC III

Design verification test (DVT)—March-November 1984.
Limited test (LT)—July-August 1984.
Follow-on operational test and evaluation (FOT&E) I—June-July 1985.
Follow-on operational test and evaluation (FOT&E) II—January-March 1986.

There are a number of controversial issues facing the program at this time that require explanation. These issues are the recently released DOD IG reports, results from the July 1984 limited test and the delay in awarding option 3.

There are two DOD IG reports—one deals with a DOD IG hotline complaint that alleges the Army withheld information from the Defense Systems Acquisition Review Council (DSARC) III, that if made available, may have resulted in a different decision; the other deals with a DOD IG audit that alleges the Sergeant York contractor negotiated lower prices with some subcontractors that resulted in $84 million excess cost to the Army.

The hotline complaint allegation was made in May 1984, and involved seven areas: Lethality, reaction time, identification friend or foe (IFF), reliability, threat assessment, electronic countermeasures (ECM) and personnel hazards. The complaint alleges that lethality and reaction time were overstated by the Army and the other areas were not presented for discussion at the DSARC III.

At meetings in May and June 1984, the Army provided extensive documentation that the allegations were not true. The Army showed that as part of the DSARC process all available documentation was provided to OSD for review. It is important to make a point about the DSARC process. It includes not only the DSARC III itself but all those actions leading up to the DSARC, for example, prebriefs, deskside discussions, Army documents, etc., provided to the OSD staff prior to the DSARC. It is comparable to the work done by the congressional staffers with the Armed Services in preparing for the authorization and appropriation mark-ups each year. The DSARC process is designed to weed out those issues that do not require consideration by high level decision makers.

Extensive Army briefings and read-ahead documents such as the decision coordination paper, integrated program summary and test and evaluation master plan were provided to the OSD staff prior to DSARC III. They included data on each area cited in the allegation. In fact, OSD papers written to the DSARC principals in preparation for the DSARC III substantiated that this advanced data was indeed provided. In addition, the DSARC III meeting included discussions on lethality, reaction time, threat ECM and reliability.

The allegation that the Army overstated lethality by 300 percent is false. It is based on OSD generated data that did not agree with Army data presented at the DSARC III. Recomputation of the data based on post-DSARC III test data show results much closer to the Army data. Army documentation was provided to the DOD IG audit team that substantiated this.

The allegation that the Army overstated reaction times by 400 percent is also false. It is based on faulty analysis that included Sergeant York "waiting time" in the definition of reaction time. Waiting time is that time after detection by the radar when the Sergeant York waits for the target to come into firing range. Army documentation was also provided to the DOD IG audit team that substantiated this.

The DOD IG report on the $84 million excess cost to the Army is also a matter of interpretation. The Army would request a refund from the contractor if we were convinced that such an action was warranted. However, we do not feel that this is the case. The Army, in accordance with acquisition regulations, conducted a competition which yielded the best price possible.

The Army, in its response to the draft DOD IG report explained in detail the factual errors in the report that led to the DOD IG finding. For example, the DOD IG incorrectly compared the best and final offer (B&FO) value which was in inflated dollars, with a BOFORS subcontract price which was in constant fiscal year 1981 dollars. Actual subcontract cost in inflated dollars is $7 million more than what is shown in the B&FO, not $18 million lower as alleged. Another example is the DOD IG finding of $14 million in excess cost by the contractor after negotiating a lower price with Day and Zimmerman—a subcontractor. In fact only $5 million was negotiated out of the subcontractor's price. The DOD IG failed to consider the contractor's in-house shift of work and the scope of work on ammunition primers. A more detailed Army response to the DOD IG finding will be provided for the record.

The Sergeant York limited test was conducted by the U.S. Army operational test and evaluation agency at North McGregor Range, Fort Bliss, Texas, from 20 July to 2 August 1984. The test was in response to direction from the Secretary of Defense that operational testing with production systems be conducted prior to the fiscal year 1984 option 3 award. The test was conducted using three early production systems—numbers one, five and six—and military crews. There were a number of test limitations which precluded a full evaluation of the system in a realistic battlefield environment. These included (1) limited crew training on the Sergeant York, (2) doctrine was still under development, (3) contractor personnel performed all maintenance except for Government furnished equipment and supply actions, (4) inability to generate a totally realistic threat as outlined is approved threat documents, and (5) range resources and safety limitations which restricted tactical scenarios.

Test results were very good, especially in light of the limited resources and time available. The system engaged 80-90 percent of the fixed and rotary wing targets in a benign environment and 60-70 percent in an electronic countermeasures environment. Against hovering helicpters, performance was only between 60-70 percent in the benign environment and 40-50 percent in the electronic countermeasures environment. We believe this was due in a large part to problems involving test site geometry at one fire unit location. We are continuing to search for the cause of the lower performance at this location. A complete evaluation will be impossible, however, because no line-of-sight instrumentation was employed. False targets caused minimal problems. The probability of kill as assessed from tracking data against the helicopters was above ROC requirements while performance against fixed wing targets could not be determined because of data problems. Identification friend or FOE (IFF) worked properly and correctly identified all targets. Ground firing showed significant improvement over previous tests with tactical engagements of stationary targets at ranges out to 3 KM and out to 2 KM against moving targets. The system also demonstrated its tactical maneuverability while accompanying maneuvering elements of an armored cavalry regiment and successfully exhibited its command and control capability. The biggest concern coming out of the test was system reliability which did not move as close to the reliability growth curve as expected. This was not totally surprising since the systems were early production hardware.

Based on the test results, the Army's independent operational tester concluded that, "the observed performance of the system, operated by soldier crews, supports the estimate of performance which led to the initial decision to initiate the materiel acquisition process".

The Army sees no evidence to suggest that the Sergeant York will not discharge its required air defense mission effectively when fielded.

Several issues surfaced from the limited test that need some explanation—use of target reflectors on the low flying helicopter test, system's reaction to decoys and electronic spoofing, and system reaction time.

A stationary non-flyable helicopter was used to simulate a low flying hovering helicopter during a live fire mission. For a hovering helicopter, the Sergeant York radar relies on the symmetric doppler return from the helicopter's rotating parts for detection and tracking. Since the turbine engine of the helicopter had been removed, two electric motors were used to drive the rotor. Using these motors, the normal rotor speed could not be achieved. The low rotor speed coupled with the helicopter having only two blades (versus the five blades on a threat helicopter) made it necessary to augment the helicopter signature with Luneberg lenses. The installation and use of radar augmentation is an acceptable practice in both developmental and operational testing, Although this helicopter was successfully engaged after several tries, it was not the realistic test we desire. Future tests will be designed to increase the realism.

No decoys were sent against Sergeant York during the limited test, but "false targets"—aerial target indicators which did not correspond to real aerial targets—appeared on the system plasma display during many data passes. The crew generally had little difficulty identifying false targets before or after they were designated. False targets had little impact on operational performance during the limited test and no false targets were engaged. False target performance was substantially better than that observed in earlier testing.

The ROC document states the Sergeant York system will have an eight second reaction time measured from target unmask to fire. This requirement has been met in some developmental tests for helicopters, but not met for fixed wing aircraft. The reaction time in the ROC is a technical requirement—guns pointed 180° from target—and will probably not be met in an operational environment. The cost and operational effectiveness analysis (COEA) indicates that a median reaction time of 16 seconds would normally be sufficient to defeat the threat and test data is showing Sergeant York reaction time will be well under 16 seconds. Engagement times achieved against fixed wing aircraft also appear to be satisfactory.

The Army recognizes the concern over the lack of complete operational testing using production systems. Plans are currently underway to conduct an extensive, and realistic operational test next year following the initial production tests. This will be the first of two follow-on opeational test and evaluations designed to continue the evaluation of how well the soldier can operate and maintain the system.

As stated earlier, the Sergeant York system is being procured under an accelerated acquisition strategy. So far two of the three production options negotiated as a result of initial competition have been exercised for a total of 146 fire units. The third option is the current fiscal year 1984 procurement of 117 fire units. This option was originally planned for award in May 1984, but was slipped to 4 November 1984 as a result of the contractor's late delivery of the first production system. It was the Army's intention to delay award long enough to ensure that the contractor could meet delivery under the revised production schedule. He did not meet production rate in August and September. Therefore, the Army is negotiating a further contract delay with the contractor.

The Army has been involved in several OSD program reviews concerning Sergeant York over the last few months to determine if and when the option 3 contract should be awarded. The Secretary of Defense has decided to continue to review alternatives under the fiscal year 1984 contract option 3. It is the Secretary of Defense's and Army's intention to reduce Government exposure at no additional costs. The Secretary also requested limited funding for fiscal year 1985 pending the results of extensive testing planned between now and July 1985. These limited funds will be for long lead items for potential fiscal year 1986 procurement.

Historically, it has taken 10 to 12 years to field a new system. The Sergeant York acquisition initiated in 1978 was designed to reduce that time, and as a result reduce cost. We have succeeded on both counts. Production of the Sergeant York began more than five years earlier than it would have under our "normal" procedures. That time saving directly converts to dollars saved which is estimated to be as much as one billion dollars.

The testing we have conducted to date has done exactly what it was designed to do-tell us what needs to be fixed before the solider has to rely on it. Contrary to the conclusions stated by some and reported in several newspapers, out tests are demonstrating that the Sergeant York works. Non-critical failures and defects have been identified and have been or are being fixed. There is nothing new in this. All new defense systems go through the cycle of test, fix and retest. There is a misconception that development ceases when production begins. Nothing could be more erroneous. We continue to test and will continue to implement fixes into production. Our primary operational tests are scheduled for spring 1985 and early 1986.

The Army urgently needs the Sergeant York air defense gun system. It will fill a critical void in air defense for the Army's front line maneuver forces.

I appreciate the opportunity of appearing before you subcommittee and I shall be happy to answer any questions you may have.

Senator GOLDWATER. Thank you very much, General.

Turning to the decision by the Secretary in his September 29 letter, will you explain your understanding of the Secretary's decision?

General WAGNER. My understanding of his decision, sir, is that he is not willing at this time to exercise option III. He would like for us to hold production at a minimum rate until we complete our testing next summer.

He would like for us to negotiate with Ford to see if we can change our contract to not spend any more dollars than are in the current option III, extend the warranty and also reduce the number of dollars spent in any given month to the bare minimum to keep the production line going.

That is exactly what we are negotiating now with Ford.

Senator GOLDWATER. Just as a matter of interest, you said that the target helicopters were driven by an electric motor.

When I was out there, they had old Navy helicopters that they actually flew.

What happened to those?

General WAGNER. We have used those in tests, sir, and have fired on them successfully. There was not one available for this test, as I understand it.

Senator GOLDWATER. General Wagner, in your mind, does it make sense to keep Divad's coming off the production line if the program is going to be canceled next summer?

General WAGNER. Sir, I am optimistic enough to believe that the program won't be canceled next summer, that it will pass this test and if we don't keep them coming off the production line at a minimum rate, we are going to have the same problems we have had in this system and every other system. If we stop production and then try to crank up production again, we are going to have the same startup problems that have caused difficulties in getting delivery at this time.

We will pay for that as you well know, sir. We are not going to be able to shut down and start up again and keep the contractor we have now at the same contract terms.

Senator GOLDWATER. In line with that, do you think that this decision will increase the cost of the system and suppose the Secretary of Defense gives the go ahead next summer, how much of an increase do you estimate will be incurred in the overall Divad procurement cost?

General WAGNER. At this particular time we are trying to negotiate to hold it at the same terms we have now. I can't guarantee that we will be successful, however.

If we can accelerate production, as Dr. Wade indicated, after that time and pick up our deliveries so that we complete the deliveries in the same buy period and not run into the additional cost escalation in the cut years, I would hope there would not be significant increases in the overall cost of the program.

Senator GOLDWATER. I am concerned about the decision that the Secretary made because it appears to me that regardless of what happens from here on, the cost of the Divad is going to go up.

Do you agree with that or not?

General WAGNER. I would like to defer to the project manager I have here with me.

Our position is that we want him to negotiate and not spend another dollar. Whether that can be executed, I am not positive. He might be able to add something to that.

General Adsit. If we can carry forward the negotiations we are having with Ford right now and we get their agreement on that and the Secretary of Defense does allow us to go ahead on a monthly basis, fund the contract so that we can have the option III deliveries on the schedule outlined by General Wagner, there will be a minimal cost impact on the program.

However, if we are not allowed to fund to that contract and support deliveries on option II, then there can be a significant cost increase.

Senator Goldwater. I have just one more question.

General, I have already entered into the record the press articles of the Divad and Army's rejoinder to these articles.

Do you think, General, that the press has given a fair accounting of the Divad situation in recent weeks?

General Wagner. No, sir, I do not. In no case that I know of have they come to the Army and given us an opportunity to answer their question before it was printed in the newspapers.

When I compared what they put in the newspapers with the data that we have gleaned from our testing, I would say it is a hatchet job, sir.

Senator Goldwater. I am disappointed that the Army leadership has done nothing to refute this bad press. That goes across the board in all the services.

It is not unusual to see the Secretary of Defense or some other official attempting to get the record set straight when the press gets off base on other defense issues. I don't know why they have not made an effort to set the record straight on this Divad case.

I hope as a result of his meeting with everything that has been brought out, that has not been brought out before, that we might see a change.

Senator Cohen?

Senator Cohen. Thank you, Mr. Chairman.

Do you think the inspector general gave you every opportunity to present your cases?

General Wagner. Sir, we presented a lot of data to the inspector general; had long meetings with him. Again, I was not in those meetings because I was not in my current job then.

However, I have gone through the record of those meetings. The Army presented a lot of data and I guess there is an agreement to disagree. The Army believes that we were completely open at the DSARC with the information available.

As he said, he doesn't know that we withheld anything. It is just a misunderstanding on how the DSARC system works.

I am not saying whether the DSARC system is right or wrong. I am saying we played within that system when we made the production decision that was made at DSARC-3.

Senator Cohen. He said he didn't know whether you withheld any information, but he said information was not furnished to those people who would have been in a position to make a better informed judgment had that test data been given to them.

He does not say anyone withheld it, but whether or not you had processed it in another manner.

General **Wagner**. We had not completed the processing of the operational test data. We did provide the raw test data to them.

It is impossible in a short period of time for any group of analysts to reduce all that data. That is the reason it wasn't completed at the time we held that particular DSARC.

I have done the best job I can do in the short period of time I have had to go back and see if I could find anything that we had available that is not made available either to the staff members of the DSARC or the DSARC proper. I have found none.

I will not say that all of that data was considered by the decisionmakers at the DSARC meeting. I believe, as best I can find out that most points were considered. The Army is continuing the investigation into this to see if we can find any evidence of withholding information because we will not condone such action.

I believe it was given to their staffs. I made an analogy before you came in, that this is no different than the way we handle the budget. We present a multitude of information to the staffs in both the Senate and the House, but they don't give all of that to you to make a decision. They give you the key points.

Senator **Cohen**. In other words, you gave the full information to the staff on DSARC and not a summary.

The Inspector General indicated the summary itself was somewhat misleading because it indicated that with respect to the testing that simply the full amount of testing was not completed, but it didn't give the specifics in terms of how many miles it traveled or how many rounds were fired as compared to 15,000 and 3,600, or whatever it was.

Was that in the specifics given to the DSARC people?

General **Wagner**. As far as I can determine, it was all given. I have Mr. Walter Hollis, Deputy Under Secretary for Operations and Research of the Army who was in the action at that time. He may be able to illuminate us on that.

Senator **Cohen**. When was that information given?

Mr. **Hollis**. The operational reaction time data was given to the people in reduced form.

Senator **Cohen**. What does that mean?

Mr. **Walters**. That means you could tell what the distribution of times was, what the medians were, what the 90 percentile was, and so on.

It was not reduced before the DSARC. So, my suspicion is that in connection with Mr. Sherick's comment and I was not at the DSARC, so I can't testify to what went on there, my suspicion is that the people took the developmental test date and inferred that would be what one would get in an operational environment.

If they had done that, they were overly optimistic because in the operational environment we have gotten longer times than this.

The numbers shown earlier were the median times observed in the limited test which means some are shorter than that, down in the 6-second area, and some could be considerably longer.

Senator **Cohen**. How long after the DSARC decision was made was the information presented?

Mr. HOLLIS. My best recollection on that, and I would have to check the exact date in the file, it was September or October. We did not finish all of the analysis on that data until January 1983, almost a year later.

If I might add on that point, we did that additional analysis to satisfy another OSD concern raised over the reaction time because it was then asserted that the reaction times were so long that the system was no longer cost effective.

We went back and redid the cost and operational effectiveness analysis using reaction time data drawn from the operational test, check test data, and it was agreed to by OSD and in a memorandum of understanding between the Army and ourselves, using an exponential distribution with a mean of about 15 seconds and found that the system still was operationally cost effective.

Senator COHEN. In the most recent operational test, you found in terms of reliability that the failures, by that I mean jamming between mean rounds, was what? Less than it was 3 years ago?

Mr. HOLLIS. The reliability data that we got in the check test, as I recall, in the limited test is lower than the data we have gotten in the last two tests on the pieces.

I should point out we fired 894 rounds, as I recall, and had one or two failures. It was a very small sample.

So, the answer to your question directly is yes, it was lower. It was a limited test, small sample and we are not satisfied with the reliability.

Senator COHEN. Based on that, the reliability is even less than it was 3 years ago?

Mr. HOLLIS. Not less than it was 3 years ago; less than it was in the most recent two tests before this limited test.

General WAGNER. In the most recent development test it was slightly higher than that. It dropped some during the limited test on the three vehicles that the soldiers were operating with limited training.

I pointed out in my briefing we are not satisfied with that yet and we are still working on fixes in that area.

Senator COHEN. What about the gun aiming accuracy in terms of mil deviation? Does that comport with the specifications?

Mr. HOLLIS. The gun aiming accuracy is classified, but I think I can deal with your question.

You have seen some analysis, I believe, or reported analysis in the paper which represents the aiming accuracy and the limited test is in excess of the specifications.

We had 18 data passes. On three of those data passes there were very wide aiming errors. On the 15 or so passes the aiming errors were down to a respectable value.

We took a look at that data in terms of historical perspective which we think is quite justified by the data that we have that the aiming errors tend to fall in a Rayleigh distribution which is sort of a negative exponential.

Three of the data points certainly did not fall on the same Rayleigh distribution as all the rest. We chose then to proceed as follows.

I think that the instrumentation radar was faulty and we have got to go out and investigate that point on the ground because the helicopters were pulling very large negative G's. According to the data we have, and helicopters tend to fall apart when they get very large negative G's. Now as regards the two data points or three, we said it is not fair not to count those because they were in the test. So, we computed the miss distance point by point, assigned a PK to each one of the miss distances including those three which had a zero PK and we then came in with the average of the probability of kill numbers.

Whereas the other folks took the average miss distance including those three numbers and got a very large number and, therefore, a very small PK based on the average miss distance.

If we could go into closed session, I could show you the numbers and how that was done.

My answer to you is that I don't believe that those three points which drive the aiming error very high were valid points because I think the test instrumentation was at fault, but that hypothesis needs to be proven.

Senator COHEN. In any event, the accuracy was less than desirble?

Mr. HOLLIS. Against the hovering helicopter, based on our computations, the accuracy was quite respectable and very close, if not at the specification.

Senator COHEN. Was anything added to the hovering helicopter in the way of———

Mr. HOLLIS. Not the live ones, no. Those that were flown by manned systems, manned aircraft were totally bare bones except for a jamming system that may have been added to them.

Senator COHEN. What other types?

Mr. HOLLIS. The ones General Wagner referred to that were tethered on the ground with the electric motors in them.

Senator COHEN. What was the purpose of that?

Mr. HOLLIS. That was an honest attempt, in my view, by the Army and the Operational Test and Evaluation Agency to simulate a hovering helicopter in the nap of the earth environment where multipath and clutter problems can affect the radar.

We couldn't achieve control of the sort of drone that Senator Goldwater mentioned in the nap of the earth environment because it required line of site in order to control it.

Furthermore, helicopters being relatively aerodynamically unstable are difficult to control close to the ground even with a pilot.

So, getting down there was just not possible. So, we said, all right, let us see what we can do that would make sense. So, the helicopter was put on the ground. It was tethered. The scheme of maneuver was to move the radar and Divad to unmask it so that it wasn't to be totally a canned shot.

It just would not provide a signature, as you heard, the first time we tried it; we could acquire it optically but we could not get it with the radar. There were three attempts made to shoot at it. The third time it was successful.

All in all, not a credible test.

Senator COHEN. Any reflectors added?

Mr. HOLLIS. Lunenberg lenses added.

Senator COHEN. Why?

Mr. HOLLIS. To try to get the signature closer to the threshold. Our helicopters apparently have lower radar cross sections than that threat.

General WAGNER. Those corner reflectors were not used on any of the helicopter passes when we were using actual helicopters. It was only on this one test where we tried to make it work and we don't consider it a credible test.

Mr. HOLLIS. That is the point I was making on the manned aircraft earlier.

Senator COHEN. What about the engagement range? I am told both in the benign and ECM environment that it did not meet the specifications.

Am I wrong in that?

Mr. HOLLIS. I do not know precisely what range you are referring to.

In the limited test, the data was not divided in terms of range distribution so I cannot tell you specifically what ranges of engagement we achieved in the benign versus the ECM environment.

I have some slides which show what fraction of targets were engaged in the two environments.

Senator COHEN. Who can tell me?

Mr. HOLLIS. I can tell you in a closed session.

Senator COHEN. You have the information, but can't disclose it in open hearing?

Mr. HOLLIS. That is right. I can tell you there were fewer engagements by 20 or 30 percent in the ECM environment than in the benign.

Senator COHEN. The reaction time, did that measure up?

Mr. HOLLIS. The reaction time was not measured in the limited test.

Senator COHEN. Is that not a critical factor?

Mr. HOLLIS. The reaction time is an important factor. We did not have instrumentation in the limited test to tell us when the helicopters actually broke mask.

In the jargon of the analysis community, we don't know what "T zero" was. We have added a time, 3 seconds, as I recall, to all of the response times that were measured and those were the numbers that General Wagner showed you. Those numbers are less than the number we used in the OTEA as a median of the distribution. Therefore, I think the reaction time is satisfactory.

Senator COHEN. Is that the helicopter and fixed wing?

Mr. HOLLIS. That is the helicopter.

Senator COHEN. How about the fixed-wing aircraft.

Mr. HOLLIS. I do not have a number comparable to the 16-second number for fixed-wing aircraft because we did not run fixed-wing trials in our simulation.

Senator COHEN. Why not?

Mr. HOLLIS. This may sound like a strange answer, but we have never put fixed-wing aircraft in a battalion task force simulation in the Army and, therefore, it was not possible to get them in when we did that analysis.

General WAGNER. The reaction times were measured, sir. What he is saying is that we don't have that 16-second median time criteria to measure against from various war games.

Senator COHEN. What I want to know is if originally this system was designed to meet the threat posed by fixed-wing, low-flying, high-speed aircraft, then why are there no operational test data to measure?

General WAGNER. We did measure that. As he said, this was 11 to 19 seconds. We feel that is probably sufficient to engage fixed-wing targets, but we don't have the war game information like the 16 seconds that he is talking about to compare it with.

If you look at the time we normally detect them; how far they will fly until they come into the area that the gun can engage them, that seems to be about the right reaction time, if I am not mistaken.

Mr. HOLLIS. As a matter of fact, the OTE briefing to the OSD T&E community before the March 1982 DSARC dealt with the issue of reaction time in terms of range of intercept.

The fixed wing came in. If they had ECM, they would burn through and they showed distribution of range of intercept. It was quite respectable and those data are in the record.

Senator COHEN. Were those tests conducted with the aircraft flying a straight path or were they pulling G's?

Mr. HOLLIS. Both straight and level and maneuvering.

Senator COHEN. You are saying that this Divad was able to perform adequately to pick up high-speed, low-flying aircraft pulling high G's coming in a battlefield situation?

Mr. HOLLIS. The data I have seen for tracking capability against fixed-wing aircraft is good.

Senator COHEN. ECM as well?

Mr. HOLLIS. ECM environment in which we have tested it. There has been reduced detection ranges as you would expect, given the kind of jammer that we are using out there. But the detection ranges are still far enough out that you can respond by the time the gun's fire control is operational, in my judgment.

Senator COHEN. In other, words, it is meeting specifications?

Mr. HOLLIS. I didn't say it was meeting specifications, because I do not know what the contract specs are today as I sit here. I haven't memorized them.

Senator COHEN. Can anybody tell me? Isn't that the key test, Mr. Chairman?

Is it meeting the specification? He says he doesn't know.

General WAGNER. The ROC requirement was 8 seconds. That was not, as I pointed out in my testimony, based on a threat that requires that type of reaction.

How they came up with that time at the time they wrote the ROC, I can't tell you now.

Mr. HOLLIS. I was trying to give you a flavor for what I see from the operational part of the assessment.

As I said, I don't memorize 55 or 60 contract specs. I am not trying to be disrespectful. I just don't do it.

General WAGNER. We are missing one or two seconds, from what we have in the contract specifications.

Senator GOLDWATER. The only test I have seen had one aircraft flying across.

In a war game, you would have at least a flight of four probably approaching. The problem there is to pick them up and that is not easy. Even tracking the A-7, traveling 0.75, there is no difficulty at all.

I am convinced it will work on the aircraft as it was designed to. You never know.

I will never forget when I took military science and tactics, General Patch was my boss. I worked on the battle of Gettysburg. I said, "How do you know I am right or wrong?

He said, "Son, you will never know until somebody starts shooting at you."

That is just about the answer.

John, do you have any questions?

Senator WARNER. No, Mr. Chairman.

Senator GOLDWATER. I would like to ask General Mahaffey if he has anything to add?

STATEMENT OF LT. GEN. FRED K. MAHAFFEY, DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, DEPARTMENT OF THE ARMY

General MAHAFFEY. No, Mr. Chairman. You have stated very well the basis for the urgent operational needs that we have for the Divad gun system. That need has not gone away.

As a matter of fact, when one looks at what has happened to the threat, it has become more urgent in the 5 years since the system has been in development. We are hopeful it will be made operational up to the performance specs and we will begin fielding this soon.

Senator GOLDWATER. I would like to ask Sergeant Masterson and Sergeant Monhollen to come up to the table, if you don't mind.

I asked them to appear because I know they have been very deeply engaged in the testing of this weapon.

Sergeant Masterson, I am not going to ask you to present a prepared statement.

Let me begin by asking you to tell the subcommittee a little about your background.

Can you tell us about the preparations for testing? When did you know you were going to be involved in this Divad test and how were the crews selected and trained?

STATEMENT OF SFC. DANA R. MASTERSON, HEADQUARTERS AND HEADQUARTERS BATTERY, FIRST INSTRUCTOR BATTALION, AIR DEFENSE ARTILLERY SCHOOL TRAINING BRIGADE, FORT BLISS, TX

Sergeant MASTERSON. We got notification of possibly 4 working days before the test started. I was on leave when it happened.

The crews selected were six sergeants from the instructor battalion, three which had never been on the Sergeant York. We selected those to be our drivers.

Myself, I had been to the IKP course instructor and key personnel course at Ford in February of 1983. I had been off the system for approximately 16 months.

Sergeant Monhollen who is working in the PM's office was my gunner to support me also because I wasn't that familiar with it.

Another sergeant was from the PM's office.

That is the way our crew was made up. Whoever got to shoot the best and did the best is why we are here.

Senator WARNER. Mr. Chairman, could he use the microphone because this is important testimony and we are anxious to hear it.

Senator GOLDWATER. Can you briefly discuss the test scenario, how long did it last and what kind of operations did the Divad have to perform?

Sergeant MASTERSON. Sir, normally our day was starting around 5:30 or 6 o'clock in the morning and ending around, usually around 9 o'clock at night when we finally completed all operations.

We were asked to perform—just about what we didn't do was fire on the move. We were asked to track on the move. We were asked to run around the race track approximately 40 miles around, for the durability of the system itself.

We were asked to shoot at ground targets, moving ground targets, stationary targets. We fired at the towed dart towed by an A-7 with training ammunition.

We finally got clearance to fire the Bofors or the Government crews to fire the Bofors, proximity rounds.

We engaged three Huey helicopters that we augmented so that we could detect them.

Senator GOLDWATER. You are the fellows who have to operate this. You fellows are going to be operating this equipment.

I would like to have your assessment of the weapon and can it do the short-range air defense job it is designed for, in your opinion?

Sergeant MASTERSON. Yes, sir, beyond reproach. I have been involved in the Redeye, the Stinger, Chaparral, Vulcan, through my years I have been at Fort Bliss. I have been in air defense since 1975.

Sergeant York can do more than any or all those systems combined. We normally have to find a target visually before we can even tell a gunner where it is. None of the systems have search radars.

The range of the Sergeant York is better than most. I don't know how a Chaparral or Vulcan or Redeye could engage a hovering helicopter. They can't do it. Sergeant York can.

High-speed aircraft, as the Senator kept mentioning all the time, we would track two A-7's and they popped up on us between 5 and 4 kilometers from behind the mountains. We had no prior knowledge where they were coming from.

We simulated four-second trigger pulls and engaged both targets continuously and up to five helicopters and two A-7's and F-4's, all at the same time, continuously.

Yes, we did miss some because of the simple fact there were so many out there, no fire unit could engage that number of targets in the first place. That is why we are traveling in pairs so that we can cover each other.

I believe Sergeant York is one of the most outstanding weapon systems I have ever seen, although there are some minor problems.

I was very saddened when I read the paper, myself, Sunday, they were going to delay the program as much as they are. The people who work with it believe in it.

Believe me, we work at what we like. This is part of our livelihood, this Sergeant York. We have to help those troops in the field.

I believe in Sergeant York. I will be more than glad to take it into combat tomorrow.

Senator **Goldwater**. Sergeant Monhollen, do you agree?

STATEMENT OF SGT. HERSHEL L. MONHOLLEN, PROJECT MANAGERS OFFICE (SERGEANT YORK), EL PASO OPERATIONS DIVISION, FORT BLISS, TX

Sergeant **Monhollen**. I totally agree with Sergeant Masterson. That is it. I want my system. I worked with Vulcan for 5 years. Forget it. Give me Sergeant York. Don't send me to do combat with the Vulcan.

General **Wagner**. Could he tell you about the false targets that have gotten all the play in the newspapers and the effect it has on the gunner?

Senator **Goldwater**. Go ahead, Sergeant.

Sergeant **Masterson**. In certain modes, at our radar automated mode when the system detects the targets automatically and slews the target automatically, the false targets only appear after the system has been run for a long period of time.

What causes a lot of our false targets which has been identified is in the last check test we had for crew comfort they had put an air conditioner in the system. Now they have rerouted it.

When the radar processor gets hot, it will present some false targets. The false targets are presented by the radar processor as priority one targets.

One reason we can identify these is that they will come up as priority one targets at any range. They may appear at 10-K range or 3-K range. If they appear within certain range, naturally the system is going to go to false target if we are radar auto.

If the problem does occur, we go to radar transmit and do everything ourselves instead of radar auto.

It did not present a problem to Sergeant Monhollen and ourselves and we had not worked together before this test.

We identified false targets. We never engaged one false target during the time we had.

A lot of the test data we have was lost by accident by the people out on the firing units who cut the OST cable and it dumped the computer. That is why a lot of data we do have wasn't enough. We destroyed half of it, not intentionally, by cutting the cable, but that is what happened.

Senator **Goldwater**. The Divad has been criticized as being too complex. Some say it is so sophisticated that the average Army enlisted personnel are not going to be able to operate and maintain the system.

Do you think it is too complicated?

Sergeant **Masterson**. No, sir; I do not. I happened to give the Vice Chief a 10-minute briefing inside the systems with the full system operating on what we were looking at, what we were doing, and we ran several search track missions.

If I remember correctly, it was about six search track missions where the aircraft popped up on us, A-7's, fast movers. They had no problem at all following my commands, a lot of times that the gunner has to do, and presented with a Huey 50 subscale helicopter target, engaged it with 32 rounds and it was shot down when the third round hit.

Every target that was presented to the Sergeant York at that range was engaged and destroyed including the tanks that were on the ground.

Senator GOLDWATER. The F-16 radar is small and rather complicated.

Does it give you a lot of trouble to maintain?

Sergeant MASTERSON. No, sir; as a trainer, I am an instructor, too, in the instructor battalion. I have nine instructors that work for me.

It is no trouble at all to train these people. Once they get on the system, they are going to be trained enough to operate it without any problems. Because of the way the system is designed, the parts come out, there is not too much for us to maintain except for the tank itself.

If you actually look at it, do our regular PM and CS and check our oil levels, and so forth, and run our checks, the system tells you that there is something wrong with it, then maintenance is called, they pull it out, replace it and you continue to march. It is not difficult.

The soldiers we are getting today are not stupid by any means; 20 years ago I might have said something else.

Senator GOLDWATER. One more question.

You have had a lot of good things to say about it.

Do you have any criticism of the system?

Sergeant MASTERSON. It uses too much fuel sometimes. It gets awful hot inside. Basically, sir, if they can go ahead on what they are talking about, the false target problem, and getting more air in the radar processor and that is what the problem is, test-fix-test, I believe they are going to solve the problems.

Every time I get in it, something is better or different where they have made a product improvement. I just can't say enough about it. The road wheels fell off the tank one day and that thing has been around for years, and years, and years. Whether that was the tank's vibration or what caused it, whatever happened, that thing will go on forever.

Chaparral always has had hydraulic leaks. It has since 1965. One of the things I carry in my truck is hydraulic fluid.

Senator GOLDWATER. Thank you.

Do you have questions?

Senator COHEN. Thank you, Mr. Chairman.

I want to commend the Sergeant. We don't have stupid people in our military, thanks to what some of the committee members on this committee have been doing in the past 5 or 6 years by increasing the incentive of people like yourself to come in and stay in. That is one of the reasons we are trying to keep high quality people there.

I would like to ask a couple of questions about the system.

What about the radar? Does this emit a radar signature itself?

Sergeant MASTERSON. Yes, sir, it does.

Senator COHEN. Is there a problem in terms of aircraft who know you are out there and have a standoff distance with some sort of missile system fixed on your radar trying to pick up hovering helicopters or aircraft, then turning its guns on you?

Sergeant **MASTERSON**. Depending on exactly what the battlefield-type engagement is, sir, whether or not we even have to use the radar sometimes will completely depend on the terrain or what we are looking at.

If by chance an aircraft was at standoff beyond the range of the Sergeant York guns, he did pick up our radar signature, he fired a radiation missile at us, the Sergeant York before impact will cover itself up. It will eliminate any radar.

It will also make a missile a priority one target from the point that it is fired. If we know we are being fired on, the system will go to it automatically and we will engage it.

We can engage either the platform or the missile that is coming at us. Those types of missiles are normally fairly slow. I don't believe we would have any trouble engaging those or the platform.

Senator **COHEN**. Have they been tested in that kind of situation?

Sergeant **MASTERSON**. Yes, they have. They shot like a bat, a ballistic aerial target. It did in fact what they call clamshell. It hid itself like a turtle. Once the thing passed, it came back up again and ready to continue the mission.

Senator **COHEN**. is there something in the works to try to turn the radar on and off in an alternate circuit?

General **MAHAFFEY**. You are describing an operational procedure by which the fire units which are employed as teams could be taught to alternate their use of radar so that they do not present a routine radar target.

Senator **COHEN**. What about the jamming of the Sergeant York?

Sergeant **MASTERSON**. I have not seen any problems. When we were running the test according to our doctrine, we did slew to the center of the jammer, identify it, simulate engagement, go back to real target.

The real target was still far enough out where it would not classify as priority one target yet. We didn't see a problem as crew members in getting around the jamming portion.

Senator **COHEN**. What about the ECM environment?

It was indicated there has been a 20-percent drop in terms of performance when you have ECM environment.

Sergeant **MASTERSON**. It depends on what type of ECM they are using. They would not allow me to change radar frequencies which I would do. I have that option as squadron leader.

We have those options to get around that. We weren't allowed to do it because of the limited test. There are several things we weren't allowed to do. We never fired primary mode with the Sergeant York while we were out there.

We changed radar frequencies which I did a couple times to see what effect it would have. It eliminated it. If they found out I changed frequencies, they would change frequencies and I would change back. It can be overridden very simply.

Again, sir, basically, as Mr. Goldwater is saying, it is on crew training, it is how well my people train those noncommissioned officers coming in for their transition courses and young soldiers how to operate that system and for us to be involved in this so that we can go along with these changes, not just go out on the platform and say this is the way to do it and see you later.

General WAGNER. It is possible to use an ECM capability that can degrade it considerably. That is true in anything we field out there. We have to anticipate what is the capability of the enemy and then continue to upgrade.

We do that in aircraft all the time. We are already working on product improvements as we foresee they may increase the threat against us. You try to keep ahead of the enemy all the time.

We already have those in the program and they are funded to keep ahead of the enemy.

Senator GOLDWATER. I know that an enlisted man or officer who has never used the trim tab on a stick of an airplane wouldn't have any problem using it, but it just works backward for any pilot. When you push the trim tab forward, the plane goes up. I don't plan to be in one.

Sergeant MASTERSON. You are welcome to come back in, sir.

Senator GOLDWATER. We have some questions that we have not been able to cover and we will put them in the record.

I want to thank you gentlemen for being here.

I have to say after hearing the testimony today that I am more confused than ever by the Secretary of Defense's recent decision to stretch out the Divad procurement. As far as I can see, it will do nothing but increase the cost of the system.

Frankly, I think the Secretary was stampeded into a bad decision by a rash of inaccurate and misleading press accounts. It sounds to me as if the advice of the military and his own defense procurement staff was ignored in deference to pressure applied by external sources.

I think the Divad is a good system. As I said in my opening statement, I am not married to it. If it is bad, I will be the first one to complain about it. I think it fills a very critical and badly needed position in the battlefield.

I think the problems that are showing up in testing are all fixable. God knows, there is nothing new about the system. I hope the Secretary's decision does not kill the program.

Senator COHEN. Only one word of caution. I would hope that Ford Aerospace does not take this as strengthening their bargaining position on warranties to measure up.

Senator GOLDWATER. I don't think they will.

Thank you, gentlemen.

We have submitted questions to be answered for the record and we would appreciate an answer as soon as possible.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR BARRY GOLDWATER

Senator GOLDWATER. Did the Secretary of Defense approve in advance your sending a copy of this report to Mr. Smith?

Mr. SHERICK. No, the Secretary of Defense did not approve in advance my sending a copy to Mr. Smith. However, advance approval was not necessary. During the audit, Mr. Smith formally requested a copy of the report. I wrote to Mr. Smith and told him that a copy could not be sent outside of DOD until the official Army reply to the draft was received and a final audit report issued. When the final report was issued, Mr. Smith was furnished with an expunged version, which excluded certain contractor business—sensitive data. Of course, I kept the Secretary apprised of Mr. Smith's request and my intent to send him a copy of the final report.

Senator Goldwater. Let me quote from your report, page 8, "There was no formal or complete government negotiation objective established prior to negotiations." That is a pretty serious allegation. Do you believe it is accurate?

Mr. Sherick. The statement in our report is correct. There was no formal or complete "going in" position established prior to negotiations. As you'll note on page 8 of the report, former members of the DARCOM negotiating team told us that some, but not all, items had negotiation objectives established before negotiations. Therefore, there was, by DARCOM's own admission, no complete Government negotiation objective. For those items that had pre-established negotiation objectives, DARCOM negotiators could provide no documentation to support or describe these objectives. In the Army's reply to our report the Army acknowledged that a "going in" price was not developed because of the competitive nature of the acquisition.

Senator Goldwater. Quoting from your report, page 9, "Our review disclosed, however, that in the case of Divad Gun System acquisition, a formal post negotiation memorandum was never prepared." Is that an accurate statement?

Mr. Sherick. Yes, it is. The Defense acquisition Regulation, specifically Section 3-811, is quite explicit regarding when a post negotiation memorandum should be prepared; what such a memorandum should contain; and to whom the memorandum should be sent. A lengthy memorandum was prepared but, regarding costs, did not satisfy the provisions of the Defense Acquisition Regulation. To us, this is a serious procedural deficiency and could put the Government at a serious disadvantage if defective pricing issues arise at a later date. It could also adversely impact on a future Army negotiating position when buying out future quantities of the Divad Gun System. The Army, in responding to our draft audit report, partially acknowledged this deficiency and agreed to send a copy of the post-negotiation memorandum to the Defense Contract Audit Agency.

Senator Goldwater. On page 10 your report says ". . . DARCOM may have negotiated an excessive costly contract for the initial production of the Divad Gun System." Frankly, that statement means nothing to me. Did they or did they not negotiate "an excessive costly contract"?

Mr. Sherick. Based on our audit report, we believe the Army did negotiate an excessively costly contract. The Army agreed that at least $323,000 in duplicate costs are in the contract and has stated that another $15 million worth of invalid requirements will not be awarded. Furthermore, the Army has indicated that action will be taken to correct this situation prior to the award of option 3. Regarding the remaining costs, the Army disagreed with the auditors. Our dialogue with the Army on this matter is continuing and will be resolved in the Department's internal audit resolution process.

Senator Goldwater. Keeping in mind the previous statement about DARCOM, the command responsible for contracting for Divad, let me quote from page 12, "We continue to believe that DARCOM displayed ingenuity, initiative and determination in the development and implementation of the accelerated acquisition strategy for the Divad Gun System." Is this the same DARCOM that didn't establish objectives prior to negotiation, and that failed to do a post-negotiation memo, and that may have negotiated a too costly contract?

Mr. Sherick. One of my goals as the DOD Inspector General is to ensure balanced reporting. Without qualification, I do believe that DARCOM displayed ingenuity, initiative and determination in the development and implementation of an accelerated acquisition strategy. This was the Army's first attempt at developing and implementing an accelerated strategy. This strategy had both high risks and high benefits to the Army which were fully considered and a careful evaluation was made of potential benefits to the fighting forces. This statement is intended to recognize the difficulties DARCOM faced and overcame and is in no way inconsistent with the disclosure of deficiencies and other shortcomings needing improvement. What I am trying to convey in my report is that, whatever merits an accelerated acquisition strategy may have post contract award, there is no reason to shortcut essential procedural safeguards in the negotiation process prior to contract award.

Senator Goldwater. On page 6 of your report, you criticize DARCOM for making too many changes to the Request For Proposal (RFP); on page 13 you criticize DARCOM for not making more changes to the RFP. In your opinion, was the RFP legally sufficient to accomplish this procurement?

Mr. Sherick. As noted on page 6 of the audit report, there were a number of difficulties with the Request For Proposal (RFP). Key among the RFP problems were the fact that DARCOM issued six substantial changes to the RFP in a 9-month period and the impact these changes had on cost evaluation. Our comment on Page

13 regarding the RFP is not a further criticism of DARCOM but merely an identification of other alternatives available to DARCOM during cost evaluation and even after negotiation. A further amendment to the RFP could have been made or a new RFP prepared according to Section 3 of the Defense Acquisition Regulation. Prior to issuing the RFP, DARCOM lawyers determined that the RFP was legally sufficient. The term "legally sufficient" means that all of the terms and conditions required by statutes and regulations for a particualr type of contract are present and adequate to create a valid obligation on the part of the Government. In this sense I am of the opinion that the RFP was "legally sufficient." However, the term does not have any bearing on whether or not a given RFP represents good business practices or management judgment.

Senator **Goldwater**. On page 20 of your report, you state "The total estimated excess price paid for the Divad Gun System production contract is approximately $83.6 million." Is that statement accurate and do you believe the Army today overpriced the contract by $83.6 million?

Mr. **Sherick**. Yes, the statement that the total estimated excess price paid for the Divad Gun System production contract is approximately $83.6 million is an accurate one. Please bear in mind that throughout our audit report we have stressed the fact that our audit results are estimates based on information available at the time of audit. We recognized that the estimated excess prices could be less or more. Hence, our recommendation to the Army is to review all prime and subcontract prices. It is my view that as of today, the Army has a production contract that does contain unfair, unreasonable and invalid prices.

Senator **Goldwater**. Your office has obviously done a lot of work on Divad. Do you believe anyone involved in the Divad procurement is guilty of criminal fraud or other criminal wrongdoing?

Mr. **Sherick**. In our audit effort on Divad, we did not uncover any material suggestive of possible criminal wrongdoing. However, in a separate but related matter, we do have an investigation underway which deals with potential cost mischarging in the Divad program. The investigation had not proceeded far enough for us to make a determination regarding criminal wrongdoing.

Senator **Goldwater**. Do you believe that anyone is guilty of gross negligence or incompetence?

Mr. **Sherick**. Our audit effort did not disclose any information which would support a belief or contention that anyone is guilty of gross negligence or incompetence. That is a matter for service management, in this case, the Army, to determine. Our contention is that the process employed in acquiring the Divad Gun System, specifically, not adhering fully to established acquisition procedures is a systemic fault rather than a matter of individual culpability.

Senator **Goldwater**. Do you feel that criminal action or administrative discipline is warranted against any individuals involved?

Mr. **Sherick**. Again, this too is a matter of service management responsibility and would be best pursued by the Army once our recommendations and other internal corrective actions developed by the Army are implemented. It is the thrust of our audit that procedures used to evaluate contractor proposals under an accelerated acquisition strategy need significant improvement. At this time, I have no reason to feel that criminal or administrative sanctions are warranted for specific individuals.

Senator **Goldwater**. You have been around DOD a long time. In your view, how would you characterize the Divad procurement, compared to other system procurements, given the accelerated schedule used in this procurement?

Mr. **Sherick**. The Divad Gun System was procured under an accelerated acquisition strategy. In my view, this strategy, properly employed, has the potential to substantially reduce development and production time as well as costs. Because of this potential, I view this strategy as one that should be improved; not discarded. The types of procedural weaknesses disclosed in the audit report, when corrected, will greatly aid future major weapons systems buys. Established acquisition guidelines need to be enforced. Because this was the Army's first attempt at an accelerated acquisition, it would be unfair to compare the Divad Gun procurement to other system procurements.

PRESS ARTICLE

Senator **Goldwater**. The press has had a lot to say about this report. Do you think they have characterized the report and your findings accurately?

Mr. **Sherick**. Under the Freedom of Information Act, the press has a right to unclassified information and data regarding Defense Department operations. Once the press obtains this information, I of course cannot control their articles. On the whole, I think these articles have been fairly accurate. I do wish, however, that they had given more recognition to the facts that (1) the Army, during the audit, took prompt corrective action to avoid paying unfair and unreasonable prices for initial spare parts orders for the Divad Gun System; (2) the Army corrected other systemic problems associated with initial spare parts procurement for weapons systems acquired under an accelerated acquisition strategy; and (3) the bulk of the excess prices identified are contained in option 3 of the Divad production contract and the Defense Department still has the opportunity to avoid paying these prices.

Senator **Goldwater**. On September 23, 1984, again in the Washington Post, Fred Hiatt wrote another article which I will put in the record at this point, together with the Army's rejoinder. This article quotes from an internal DOD memo by a Mr. James C. Finsterle. Dr. Wade, who is Mr. Finsterle? Does he work for you?

Dr. **Wade**. Mr. James C. Finsterle is the Assistant Deputy Director for Land Forces in Program Analysis and Evaluation Mr. Finsterle does not work for me.

Senator **Goldwater**. What is Mr. Finsterle's position on Divad?

Dr. **Wade**. I would request that you ask Mr. Finsterle that question directly. However, from what I know of Mr. Finsterle's position, it is contrary to that of PA&E and the OSD.

Senator **Goldwater**. How did the Washington Post get Mr. Finsterle's memo? Is his memo classified?

Dr. **Wade**. I don't know the answer to the first question. I believe Mr. Finsterle's memo was classified Confidential—Unclassified when the enclosures were removed.

Senator **Goldwater**. Mr. Hiatt's article also quotes from the DOD IG report on allegations that the Army withheld information from DOD. Mr. Sherick, is that DOD IG report classified?

Mr. **Sherick**. There are portions of that report relating to the hotline complaint that are classified. These portions, unless removed, make the overall report confidential.

Senator **Goldwater**. Did you give a copy of that report to the Washington Post?

Mr. **Sherick**. No, sir, I did not give a copy of that report to the Washington Post.

Senator **Goldwater**. Do you know how the Washington Post got access to a classified document?

Mr. **Sherick**. No, sir, I do not. Nor do I know, if they did have access, whether it was to the full classified version or to an edited, unclassified version.

Senator **Goldwater**. Dr. Wade, do you have any idea how the Washington Post got a copy of the classified IG report?

Dr. **Wade**. No.

Senator **Goldwater**. On September 6, 1984, Walter Andrews, writing in the Washington Times, says the Army has decided to add Stinger missiles to the Divad in an attempt to save the Divad. A copy of that article will go in the record at this point. The Army's rejoinder will also be included. Let me quote from that article: "In an attempt to salvage an anti-aircraft gun system . . . , the Defense Department will combine the system with a missile at an additional cost of $1 billion . . ." Dr. Wade, is that an accurate statement?

Dr. **Wade**. Yes, the fact that the Defense Resources Board approved a program to add the Stinger Missile to the Sergeant York. This program was approved to make the Sergeant York more effective in an air threat environment which is becoming more lethal with time.

Senator **Goldwater**. The article continues "To Compensate for the $4.2 billion . . . Divad gun systems short range, the Pentagon will combine it with the Stinger Heat-seeking missile . . ." Dr. Wade, what is the range of the Divad 40mm guns?

Dr. **Wade**. The effective range of the 40mm guns against air target is classified. However, the effective range of the 40mm gun is about twice that of the existing 20mm Vulcan air defense gun.

Senator **Goldwater**. What is the range of the Stinger missile, Dr. Wade?

Dr. **Wade**. The specific range of Stinger against air target is classified. However, Stinger is effective against many air threats at greater ranges than the 40mm gun.

Senator **Goldwater**. On September 19, 1984, the Chicago Tribune published an editorial referring to the Divad as "A Dr. Seuss-like contraption". A copy of that article and the Army's rejoinder will go in the record at this point. I find this editorial to be so full of errors and garbage journalism that it hardly deserves comment. But the last line of the editorial is especially vicious; the editorial implies that Divad won't work and ends with this sentence: "American weapons that don't work kill Americans." Dr. Wade, do you think that the Divad is a system that will kill Americans?

Dr. WADE. No, sir. Sergeant York is being designed to be an effective, survivable air defense system. We would field no system that would kill Americans. It provides a significant improvement over the existing Vulcan air defense gun.

[Chicago Tribune, September 19, 1984]

THE DANGEROUS DIVAD

Defense Secretary Caspar Weinberger is on the brink of making a mistake that could cost taxpayers $4.2 billion or more and jeopardize the lives of American troops.

He is to decide this week whether to press ahead with the Army's flawed Divad antiaircraft system, absurdly named the Sergeant York after World War I's greatest marksman. The Pentagon has already invested $1.5 billion in the project and ordered 146 of the guns, which thus far have proved about as useful as Daisy air rifles—and maybe less.

Mr. Weinberger must now approve or disapprove the next phase of the order—117 weapons. Once notified of his decision, Congress will have 30 days to countermand his order, but getting that kind of concerted action out of the House and Senate when their members are adjourning in less than three weeks for the election campaign is about as likely as the Divad actually hitting an enemy aircraft.

If the order goes through, the Pentagon will have committed the country to nearly half the Army's goal of 614 of these duds. The pressure to complete the project, and "save" the investment, will be immense. The total cost then would run to $4.2 billion or more.

A Dr. Seuss-like contraption combining two 40 mm. Swedish Bofors guns with radar equipment from the F-16 fighter and other high-tech oddities, the Divad is manufactured by Ford Aerospace, which went begging to the Reagan administration for defense business when the Ford Corp. was near bankruptcy a few years ago.

A rival weapon produced by General Dynamics beat the Ford entry two to one in competition for the contract, but the test results were jiggered in a computer to give the Ford product overall "superiority." When it was found that the Ford gun could not hit maneuvering aircraft, its mission was redefined to take out stationary hovering helicopters.

In the latest round of testing held this summer, the Divad reportedly mistook nearly half of 180 decoys sent against it as real targets. It was easily confounded by attackers using electronic countermeasures and pop-up, drop-down evasive measures. It achieved its only real success when targets were fitted with radar reflectors.

When these sorry results were made public, the Army then made the ludicrous suggestion that the Divad be equipped with its own Stinger anti-aircraft missiles—at an additional cost to the taxpayers of $1.3 billion.

Though he's going to make his decision on the next phase now, Mr. Weinberger says truly comprehensive testing of the Divad can't be conducted until next spring. Rep. Denny Smith (R. Ore.) and other concerned members of Congress ask: Why not wait until then before buying any more?

On the basis of testing thus far, the Divad ought to be junked, or sold to the enemy to make it easier for American ground attack aircraft. The present 20 mm. Vulcan anti-aircraft system should be replaced, but not by this lemon. American weapons that don't work kill Americans.

INFORMATION PAPER

Subject: Rejoinder to Chicago Tribune Article "The Dangerous Divad" 19 September 1984.

FACTS

1. *Allegation:* "Defense Secretary Caspar Weinberger is making a mistake that could cost taxpayers $4.2 billion or more and jeopardize the lives of American Troops."

Rejoinder: Secretary Weinberger supports the Army's need for the Sergeant York System. He has personally talked to an Army soldier who operated the system during the recent Limited Test. Secretary Weinberger was impressed by the positive statements and confidence the soldier had in the Sergeant York System.

2. *Allegation:* "Army's flawed Divad . . . absurdly named the Sergeant York after World War I's greatest marksman . . . (Divad) have proved about as useful as Daisy air rifles . . . and maybe less."

Rejoinder: Sergeant York is the first Army weapon system named after an enlisted soldier. The Sergeant York System is meeting its performance requirements and has demonstrated capabilities that far surpass the performance capability of any fielded anti-aircraft gun system in the world.

3. *Allegation:* "Congress will have 30 days to countermand his order but getting that kind of concerted action out of the House and Senate when their members are adjourning in less than three weeks . . . is about as likely as the Divad actually hitting an enemy aircraft."

Rejoinder: Congress requires a 30 calendar day notification prior to the fiscal year 1984 option 3 award. There is no requirement for Congress to be in session. It is the Army's intention to provide the notification while Congress is still in session.

4. *Allegation:* "A Dr. Seuss like contraption."

Rejoinder: This is an absurd phrase. Sgt York is a mature system design that incorporates the proven technology of the BOFORS 40mm gun, the F16 fire control system, and the M48A5 tank chassis.

5. *Allegation:* "Divad is manufactured by Ford Aerospace which went begging to the Reagan administration for defense business when the Ford Corporation was near bankruptcy a few years ago."

Rejoinder: Ford Aerospace has been a Department of Defense Contractor for many years. Ford Aerospace was selected as the Sergeant York contractor after a very extensive Army source selection process.

6. *Allegation:* "A rival weapons produced by General Dynamics beat the Ford entry two to one in competition for the contract but the test results were jiggered in a computer to give the Ford product overall superiority."

Rejoinder: a. Ford performed better than General Dynamics in most areas of performance and successfully engaged both fixed wing and rotary wing targets."

b. The Army's Ballistic Research Laboratory was responsible for taking the threat target vulnerability data and comparing the performance parameters of the two competing systems against these targets. Identical criteria were applied to the performance of both competitors.

7. *Allegation:* "When it was found that the Ford gun could not hit maneuvering aircraft, its mission was redefined to take out stationary hovering helicopters."

Rejoinder: Sergeant York can hit and kill both fixed wing and rotary wing targets flying attack and mission profiles expected in the forward mission area. The Sergeant York mission has not been redefined.

8. *Allegation:* "In the latest rounds of testing . . . . Divad reportedly mistook nearly half of 180 decoys sent against it as real targets. It was easily confounded by attackers using electronic countermeasures and pop-ups, drop-down evasive measures."

Rejoinder: Not true. Decoys were not employed against the Sergeant York system in the Limited Test. The article is referring to false targets. The Sergeant York radar meets its contract specifications for both false targets and the design electronic countermeasures threat.

9. *Allegation:* "When these sorry results were made public, the Army then made . . . . suggestion that the Divad be equipped with . . . . Stinger anti-aircraft missiles."

Rejoinder: a. The limited Test results were very good and showed that the Sergeant York System can tactically support forward area maneuvering forces and can operate effectively in a multiple target environment.

b. Sergeant York has been designed to counter the known threat. As the capability of the threat grows over time, however, it will be necessary to product improve Sergeant York so as to keep pace with the threat. Product improving with Stinger not only enhances Sergeant York engagement capability but also makes it more difficult for the threat to counter both a missile and gun system combined.

10. *Allegation:* "Why not wait until then (next spring after comprehensive testing) before buying any more (fire units)?"

Rejoinder: There is no reason to delay the fiscal year 1984 option 3 award until next year. The program acquisition strategy is working. The Sergeant York System is meeting its performance requirements. The recent Limited Test produced very good results.

11. *Allegation:* "On the basis of testing thus far, the Divad ought to be junked or sold."

Rejoinder: Sergeant York System is urgently needed. Testing to date has shown that the Sergeant York System is meeting its system requirements. It has demonstrated the ability to effectively engage fixed wing and rotary wing targets in both benign and electronic countermeasures environments.

12. *Allegation:* American weapons that don't work kill Americans.

Rejoinder: Testing to date has shown that the Sergeant York System works. Troop acceptance of the System has been very high.

LIMITED OPERATIONAL TEST

Senator GOLDWATER. Dr. Wade, explain briefly why a Limited Operational Test of Divad was set up?

Dr. WADE. In March 1984, the Under Secretary of Defense for Research and Engineering requested that the Army not exercise option III until solid test results are available. Testing that had occurred since the last DSARC review had been severely constrained by test article configuration, duration of the test, unrealistic test conditions and produced some adverse test results. Further, no production fire units had been delivered by the contractor and qualification tests were 6 to 12 months behind schedule. Therefore, it was deemed prudent to require additional tests to verify that the Sergeant York would meet requirements before committing to additional buys.

TEST PLAN APPROVAL

Senator GOLDWATER. Did your office approve the test plan?

General HALL. No. While we were consulted during planning of the test concept and reviewed the test issues, we did not approve nor disapprove the test plan since the Limited Test did not meet operational test criteria.

DOD INDEPENDENT ASSESSMENT

Senator GOLDWATER. Did your office assist in the analysis of the test data?

General HALL. Analysis of the limited test data was performed by the Army's Operational Test and Evaluation Agency (OTEA). This office along with Defense Test and Evaluation, and Program Analysis and Evaluation offices had access to all data and reviewed specific areas of interest and formed an independent assessment of the limited test results.

TEST RESULTS PRESENTED DIFFERENTLY

Senator GOLDWATER. Do you think the test results have been accurately and fairly presented by the Army?

General HALL. Yes, I don't know of any disagreement other than shades of gray on the impact of various results. The results themselves we all agree on. The Army normally compares Divad performance to the contract specifications which typically quantify a requirement in isolation; i.e., radar acquisition range is assessed against a single target, without ECM or ground clutter. Our assessment does not compare test results directly to the contract specifications, rather, we have to the extent possible, related the results to operational performance in the threat environment. We recently went through 55 of the key requirements for the Divad system with the Army and OSD staffs. I think we have come to a very close agreement, particularly with respect to the limited test, on the assessment of the test results.

TEST NOT SCORED AS PASS OR FAIL

Senator GOLDWATER. In an article in the Washington Post on September 17, George Wilson reported "The Army's New Super-Gun, the Costly, Elaborate Sergeant York Divad, has failed recent tests. . . ." The entire text of that article will go into the record at this point. Did the Divad fail the limited operational test?

General HALL. There were specific parameters within that test that did not meet the contract specifications. Contract specifications are written in a benign environment. That is, if you want to measure the detection range one day and make a design change and compare it to previous measurements you must insure that test conditions are identical: a clear background, no clutter, no ECM, and say, a single target. When we tested it in the limited test, our targets were down near the ground. There was ground clutter, and ECM, therefore, the detection ranges may not have met contract specification range. Within an operational context, we believe it was a valid test. The results were good and the system has an opportunity to be effective. We need a further test to verify Divad operational effectiveness with trained crews.

[Washington Post, September 17, 1984]

WEINBERGER DUE TO DECIDE FATE OF ARMY GUN THAT FAILED TESTS

By George C. Wilson

The Army's new super-gun, the costly, elaborate Sergeant York Divad, has failed recent tests and aides are scheduled to recommend this week to Defense Secretary Casper W. Weinberger whether to continue, stretch out or kill the $4.2 billion program which has stirred opposition in Congress and controversy in the Pentagon.

Weinberger, who has championed the weapon as part of his oft-stated pledge to "rearm America," said in a telephone interview that some of the test results "are good and some aren't so good. We need take more time to look at some other test results" before making a decision on whether to buy the next batch of Divads.

The immediate question before Weinberger is whether to buy another 117 Divads on top of the 146 already ordered in light of its inability to detect decoys and overcome electronic spoofing spotlighted in the most recent Army tests at White Sands, N.M. The Army hopes to buy a total of 614 Divads and has already invested $1.5 billion which cannot be recovered.

The controversial test results on Divad come when a growing number of lawmakers are demanding that the Reagan administration take a harder line against contractors who deliver flawed weapons.

The shortcomings of Divad, no matter how the Pentagon explains them to Congress, seem certain to fan the flames of this latest controversy.

Richard D. DeLauer, Pentagon research director, said he is sifting through the test data and will make his recommendation to Weinberger this week on where to go next with Divad, an acronym for division air defense.

The Divad consists of two fast-firing, 40mm Swedish Bofors guns mounted on an M48 tank chassis. The guns can be aimed by radar or human eyes.

The Army contends that the advent of big Soviet helicopters that can fire antitank missiles at American armor on the battlefield makes the Divad vital.

"We need the capability," Weinberger said. He would not say which way he was leaning in regard to Divad's future or when he would make his decision.

His options are to certify to Congress that Divad is reliable enough to warrant further production, to suspend or stretch out the purchase of the next batch until fixes are made or to cancel the program. To save time, Divad is being tested and improved while it is in production.

DeLauer is known to feel that Divad's problems can be corrected but has focused on whether the end product would be reliable and simple enough to put in the field where troops, not factory specialists, would operate it.

This summer's tests of Divad at White Sands gave the gun's critics fresh ammunition.

The antiaircraft system mistook almost half the 180 decoys sent against it for real targets, sources said, and could hit only about one-third of the aerial attackers when they employed eletronic counter-measures to fool the gun's radars.

Also, officials said, Divad had difficulty hitting simulated Soviet helicopters which used the "pop up" technique of rising quickly from the ground "firing" antitank missiles and then ducking down low again to hover on the nap of the earth.

Success was achieved only after several radar reflectors were attached to the target helicopter, sources said.

Pentagon officials, while not disputing that those problems were revealed in this summer's tests, countered that they do not mean Divad would not be an effective weapon against the threats it was designed to combat. The Divad is working with a radar from an Air Force F-16 fighter, a Pentagon defender said, and was not equipped to handle electronic spoofing. He said the radar could be upgraded and antispoofing gear could be added to the gun.

Production of the gun is under way, but only 15 units have been delivered. The 117 Divads at issue would be the third production segment in the Army's contract with Ford Aerospace and Communications Corp. of Newport Beach, Calif. "Divad experienced normal start-up problems," said Ford spokesman Susan Frutkin. "None of them are show-stoppers. Most of them have been fixed." Ford has 2,000 subcontractors in 38 states working on Divad, a potentially powerful political base to fight any Pentagon or congressional efforts to reduce or cancel the program.

Officials in the Army's Operational Test and Evaluation Agency reported that the recent tests posed "serious questions" about the Divad's performance and reliability, according to one Army source. Even relatively simple ammunition-feeder mechanisms experienced problems, sources said.

A separate question swirling around Divad is whether the Army allowed Ford to charge too much for the weapon in the fixed-price contract. The price the company quoted to its subcontractors is being compared with the one negotiated with the Army, according to Army officials.

Senator **Goldwater**. Did you or anyone in your shop participate in the test?

Dr. **Wade**. We had a monitor on the scene of this Army conducted test, who provided test data both to the Director, Defense Test and Evaluation and to Director, Operational Test and Evaluation.

Limited Operational Test

Senator **Goldwater**. In your opinion, did the Divad fail its limited operations test?

Dr. **Wade**. No, the Sergeant York gun did not fail the limited test. However, the reliability of several subsystems did not appear to be where we thought they should be at this point in time, and there were concerns expressed by reviewers of the test in target tracking and accuracy. Therefore, the decision was made to wait until we have a thorough operational test and evaluation of the system before committing to additional buys of the system.

Senator **Goldwater**. George Wilson is usually a pretty accurate reporter. Do you have any idea who told him that Divad failed this test?

Dr. **Wade**. No, I don't.

Decoy Not Employed

Senator **Goldwater**. In the same article, it states with regard to this test: "The anti-aircraft system mistook almost half of the 180 decoys sent against it for real targets . . . and could hit only about one-third of the aerial attackers when they employed electronic countermeasures to fool the gun's radar". General Hall, is that statement true?

General **Hall**. No. Decoys, which are deliberate attempts to confuse and overload a weapon system were not employed in the limited test. They have been confused with false targets which were observed. A false target occurs when the radar display indicates a target in a location where a valid target does not exist. This problem can be caused by ECM, ground clutter or internal noise in the electronic systems. [Deleted.] The operators were able to identify the false targets and none were engaged. [Deleted.]

Secretary of Defense's Decision

Senator **Goldwater**. Let me turn to the recent decision of the Secretary of Defense that is contained in his letter of September 29, 1984. Currently, the Army has a contract with Ford Aerospace to buy Divad that provides for three options. Option I, which has been executed using fiscal year 1982 funds, buys 50 Divad fire units. Option II, using fiscal year 1983 funds for 96 units, has also been executed. Option III, which is for 130 units and for which $580 million has already been authorized and appropriated in fiscal year 1984, has not yet been executed. Dr. Wade, have I portrayed the situation accurately with regard to the current contract?

Dr. **Wade**. Yes, except that option III is now for 117 units at $527M.

Senator **Goldwater** I think the current contract that the Army has is a pretty good contract. It requires the contractor to guarantee the Divad and to fix, at his own expense, anything that does not meet contract specs. Dr. Wade, what is your opinion of the current contract, is it a good contract; does it protect the Government interests?

Dr. **Wade**. Yes, it is a good contract and does have favorable prices and warranties which we are going to attempt to retain.

Senator **Goldwater**. When must option III be executed by the Army to avoid abrogating the terms of the existing contract?

Dr. **Wade**. The Army has stated that 4 Nov 1984 is the last date to commit to option III.

Senator **Goldwater**. It is not clear to me from the Secretary's letter what you intend to do about option III Please clarify that situation.

Dr. **Wade**. We intend to negotiate with the contractor to put off signing option III until after the Operational tests scheduled for the summer of 1985. We would pay minimum progress payments from now through September 1985. After we have analyzed the Operational test date to be sure that Sergeant York meets requirements, we would exercise option III. This action is estimated to stretch the program by about 5 months.

Senator GOLDWATER. Will this decision abrogate the terms of the existing contract?

Dr. WADE. We hope to be able to protect the terms of the contract by making minimum progress payments in order to allow Ford A.C. Corp. to protect its commitments to subcontractors.

Senator GOLDWATER. If you decide not to execute option III, it looks to me like the Army has about $400 million in fiscal year 1984 funds that will not be spent. Is that accurate?

Dr. WADE. No. If we are able to negotiate a program as I described above, we would have committed about two-thirds of the fiscal year 1984 funds in ammunition and progress payments through September 1985.

Senator GOLDWATER. In any event, it appears to me that you do not intend to buy any more Divad's until another decision is made sometime next summer, Is that accurate?

Dr. WADE. Yes. Sir, we will delay committing for any more Sergeant Yorks, in addition to those already purchased in option I and II of the present contract until after the Operational Tests are completed in July 1985.

Senator GOLDWATER. What do you intend to do about the 146 Divads that are already under contract under options I and II and that are now coming off the production line?

Dr. WADE. We have structured a program that is successs orientated. We believe that the Sergeant York is an effective and worthwile system. These 146 units will be accepted and troops will be trained to man them. After the Operational Tests the other Sergeant Yorks will be acquired. In the event that the Sergeant York does not pass the Operational Test, then decisions will be made at that time as to whether we should fix Sergeant York or proceed on to an alternative system.

Senator GOLDWATER. This decision perplexes me. You are going to continue producing Divads at a rate of about six per month through next summer at which time you will make a decision as to whether or not you will buy any more. Suppose you decide not to buy any more. What will you do with the 50 or so Divads that will have been produced?

Dr. WADE. We have committed the government to buy 146 Sergeant Yorks (option I and option II). We have not made the decision as to what we will do if the test fails, because it would require a thousand, "what ifs." It would depend on the nature and seriousness of the failures. If they are considered fixable or not. In all probability they would be considered fixable since Sergeant York has already demonstrated much capability. Therefore, a fix would be defined and a program planned to back-fit those Sergeant Yorks already produced with the upgrades.

Senator GOLDWATER. It looks to me like the only thing this decision does is to waste money. If you decided to go ahead next summer, you will have wasted a year, abrogated the existing contract, and put yourself in a position of having to deal—sole source—with one contractor. If you decide not to go ahead next summer, you will have spent over $1.5 billion and all you will have to show for it will be 50 Divads that will be "white elephants" and will probably not be cost effective to keep in the force structure. Why don't you cancel the contract today until you make a decision—it certainly seems to me that cancellation would minimize the potential dollar waste?

Dr. WADE. We are being cautious and wish to hold any increases to the Sergeant York program to a minimum. We believe we have structured a program which reduces to a minimum the government exposure on the Sergeant York program until we are sure that the Sergeant York will meet requirements.

Senator GOLDWATER. I assume that you provided the Secretary of Defense with several options as to how to proceed with Divad. Can you outline for us what those options were and tell us the cost associated with each option?

Dr. WADE. I will describe the options. I cannot go into costs since that is a matter of negotiations with our contractor Ford Aerospace and Communications Corp. The options were essentially:

Sign up to option III now.

Cancel option III—renegotiate a new contract after the operational tests.

Delay production rampup, stretch the program and make minimum progress payments to hold the warranties and prices until after the operational tests.

Senator GOLDWATER. Why do you need $100 million for fiscal year 1985, if you are not going to make a decision until next summer?

Dr. WADE. With the stretch out of production under the option I and II buys and since there is a 12 to 15 month lead time for production of Sergeant York, it became apparent that the $479M for fiscal year 1985 procurement was not going to be required. It appeared prudent to reduce fiscal year 1985 procurement to only acquisition of long lead items for fiscal year 1986 procurement of Sergeant York in order to preclude a break in production. There is a 12 to 15 month production lead-time on Sergeant York, and therefore, only $100M would be required for fiscal year 1985 procurement of long-lead for the fiscal year 1986 Sergeant York program.

Senator GOLDWATER. Can you tell me, specifically, what you expect to know next summer, that you do not already know, that will enable you to make a decision on further production?

Dr. WADE. We will know how the troops, who will have to man the system in the field, will react to the system. How well they can maintain Sergeant York and how well, they can operate it. Further, we expect to better understand how well the Sergeant York will work in an intensive electronic countermeasure environment. We will attempt to simulate the combat environment and rigorously test Sergeant York in this environment. We then expect to better understand whether Sergeant York meets requirements.

Senator GOLDWATER. What went wrong with the Divad procurement strategy to get us where we are today?

Dr. WADE. Nothing went wrong with the acquisition strategy. What caused the concern was the program delays and lack of hard test data on the system. If we committed to option III last summer over half of all the Sergeant York we would have bought would have been procured before the Sergeant York had an operational test and evaluation.

Senator GOLDWATER. There has been much criticism about not testing the Divad before making a decision to buy. Do you agree with that criticism?

Dr. WADE. The limited government testing planned in the Divad acquisition strategy permitted less insight into the progress of the contractor's integration efforts than a more conventional approach would have, with a commensurate saving of several years development time. The limited testing did, however, provide sufficient assurance that no major problems existed without reasonable solutions.

Senator GOLDWATER. Did the testing program for David differ substantially from the testing program of other major weapons systems?

Dr. WADE. Yes. The acquisition strategy proposed by the Army and approved by the DSARC attempted to fulfill the desire of Congress to field a weapon system much sooner than a more conventional acquisition strategy would allow. A necessary feature of this approach was the elimination of most government testing during development, with only brief spot-checks to determine the success of the contractor's integration effort. As problems were encountered during engineering development, several periods of government testing were added to the progam, but these were generally piecemeal tests with specific, limited objectives. As a result, a thorough evaluation of the system's operational effectiveness and suitability has not been possible, and will require a test like the Follow-on Operational Test and Evaluation in the spring of 1985.

DIVISION AIR DEFENSE GUN SYSTEM (DIVAD) IG REPORT

Senator GOLDWATER. When did the Army receive the DOD IG Report, dated September 10, 1984, regarding the audit of the Divad contract?

General WAGNER. 11 September 1984.

Senator GOLDWATER. Do you agree with the DOD IG that the Army "may" have negotiated a contract that overpaid the contractor by $83.6 million?

General WAGNER. The DOD IG report on the $84 million excess cost to the Army is a matter of interpretation. The Army would request a refund from the contractor if we were convinced that such an action was warranted. However, we do not feel that this is the case. The Army, in accordance with acquisition regulations, conducted a competition which yielded the best price possible. The Army, in its response to the draft DOD IG report explained in detail the factual errors in the report that led to the DOD IG finding. For example, the DOD IG incorrectly compared the best and final offer (B&FO) value which was in inflated dollars, with a Bofors subcontract price which was in constant fiscal year 1981 dollars. Actual subcontract cost in inflated dollars is $7 million more than what is shown in the B&FO, not $18 million lower as alleged. Another example is the DOD IG finding of $14 million in excess cost by the contractor after negotiating a lower price with Day and Zimmerman—a subcontractor's. In fact, only $5 million was negotiated out of the subcontractor's price. The DOD IG failed to consider the contractor's in-house shift of work and the scope of work on ammunition primers. A more detailed Army response to the DOD IG finding has been provided for the record.

Senator GOLDWATER. Do you believe that any AMC personnel were guilty of criminal acts or dereliction in the procurement process that arrived at the Divad contract?

General WAGNER. No.

Senator GOLDWATER. Do you agree with any of the findings in that DOD IG Report?

General WAGNER. The Army, in reviewing the draft report, did not concur with the findings and recommendations concerning the acquisition strategy and regulatory requirements, subcontractor costs, and spare parts price escalation. The Army did concur with findings and recommendations on safeguards for spare parts acquisition. I do not expect the Army's position to change now that we have the final report.

Senator GOLDWATER. Turning to the DOD IG allegations that the Army misled the DOD by sending up bad information and withholding information prior to the May 1982 DSARC decision, what is your view on that situation?

General WAGNER. The Hotline complaint allegation was made in May 1984, and involved seven areas: lethality, reaction time, Identification Friend or Foe (IFF), reliability, threat assessment, Electronic Countermeasures (ECM) and personnel hazards. The complaint alleges that lethality and reaction time were overstated by the Army and the other areas were not presented for discussion at the DSARC III. At meetings in May and June 1984, the Army provided extensive documentation that the allegations were not true. The Army showed that as part of the DSARC process all available documentation was provided to OSD for review. It is important to make a point about the DSARC process. It includes not only the DSARC III itself but all those actions leading up to the DSARC, for example, prebriefs, deskside discussions, Army documents, etc., provided to the OSD staff prior to the DSARC. It is comparable to the work done by the congressional staffers with the Armed Services in preparing for the authorization and appropriation mark-ups each year. The DSARC process is designed to weed out those issues that do not require consideration by high level decision makers. Extensive Army briefings and read-ahead documents such as the Decision Coordination Paper, Integrated Program Summary and Test and Evaluation Master Plan were provided to the OSD staff prior to DSARC III. They included data on each area cited in the allegation. In fact, OSD papers written to the DSARC principals in preparation for the DSARC III substantiated that this advance data was indeed provided. In addition, the DSARC III meeting included discussions on lethality, reaction time, threat ECM and reliability. The allegation that the Army overstated lethality by 300 percent is false. It is based on OSD generated data that did not agree with Army data presented at the DSARC III. Recomputation of the data based on POST-DSARC III test data show results much closer to the Army data. Army documentation was provided to the DOD IG audit team that substantiated this. The allegation that the Army overstated reaction times by 400 percent is also false. It is based on faulty analysis that included Sergeant York "waiting time" in the definition of reaction time. Waiting time is that time after detection by the radar when the Sergeant York waits for the target to come into firing range. Army documentation was provided to the DOD IG audit team that substantiated this.

Senator GOLDWATER. Do you think the press has given a fair accounting of the Divad situations in recent weeks?

General WAGNER. No. In no case that I know has the press come to the Army and given us an opportunity to set the record straight before it was printed in the newspapers. When I compared what they put in the newspapers with the data we have gleaned from our testing, I would say it has been a hatchet job.

Senator GOLDWATER. Why has there been no effort by the Army to set the record straight in the Divad case?

General WAGNER. The Army's Public Affairs office has been working with the news media to set the record straight. Letters have been written to the editors of two newspapers explaining the inaccuracies reported in their articles. The Army has prepared rejoinders to articles and have provided them to the Congressional Oversight Committees. The Army will hold a Sergeant York press conference at the AUSA Convention, 16 October 1984 and a Sergeant York demonstration at Fort Bliss 24 October 1984 for Civilian Aides to the Secretary of Army and the news media.

Senator GOLDWATER. What precisely is the Army doing about adding the Stinger to the Divad?

General WAGNER. Sergeant York has been designed to counter the known threat. As the capability of the threat grows over time, however, it will be necessary to product improve Sergeant York so as to keep pace with the threat. Product improving with Stinger not only enhances Sergeant York engagement capability but also makes it more difficult for the threat to counter both a missile and gun system combined. Development could begin as early as fiscal year 1985 providing a congressional reprogramming action is approved.

Senator GOLDWATER. Turning to the Limited Operational Test that was conducted in July and August, who developed the test plan?

General WAGNER. U.S. Army Operational Test and Evaluation Agency.

Senator GOLDWATER. Who conducted the test?

General WAGNER. U.S. Army Operational Test and Evaluation Agency.

Senator GOLDWATER. Did DOD approve the test plan?

General WAGNER. Yes, the test plan was coordinated with the Director Operational Test and Evaluation, Office of the Secretary of Defense.

Senator GOLDWATER. One press account said that Divad failed the Limited Operational Test. Is that accurate? How would you characterize the test results?

General WAGNER. Divad did not fail the Limited Operational Test. The overall conclusion of the test was that the observed performance of the system operated by soldier crews supports the estimates of performance which led to the initial decision to initiate the materiel acquisition process.

Senator GOLDWATER. Did DOD participate in the test and the analysis of the test results?

General WAGNER. Yes.

Senator GOLDWATER. Would you outline for us all areas in this test where the Divad failed to meet the contract requirements and discuss each area?

General WAGNER. Operational tests are performed to address operational issues, not contract requirements. Eight operational issues were identified for the Limited Test and jointly agreed upon between the Army and OSD. These issues and relevant test results were briefed to OSD, GAO and the HAC S&I. Divad generally performed well in all issues. In particular, Divad did not "fail" any issue. U.S. Army Operational Test and Evaluation Agency sees no evidence to suggest that Divad will not discharge its required air defense mission effectively when fielded.

Senator GOLDWATER. Are you comfortable with the overall test program, not just the Limited Operational Test? Are you getting adequate test results to let you make procurement decisions?

General WAGNER. Yes. The testing we have conducted to date has done exactly what it was designed to—tell us what needs to be fixed before the soldier has to rely on it. Contrary to the conclusions stated by some and reported in several newspapers, our tests are demonstrating that the Sergeant York works. Non-critical failures and defects have been identified and have been or are being fixed. There is nothing new in this. All new defense systems go through the cycle of test-fix retest. There is a misconception that development ceases when production begins. Nothing could be more erroneous. We continue to test and will continue to implement fixes into production.

Senator GOLDWATER. What do you intend to do about option III of the current contract?

General WAGNER. Option III will be delayed until completion of testing next year. The Army is negotiating with the contractor to extend option III at no cost to the Government. Negotiation results will be provided to the Secretary of Defense for approval.

Senator GOLDWATER. How much money will be spent between now and September 1, 1985 to keep the production line going as provided for in options I and II of the current contract?

General WAGNER. The Army is negotiating with the contractor to extend option I and II at no cost to the Government. Negotiation results will be provided to the Secretary of Defense for approval.

Senator GOLDWATER. If no production decision is to be made until next summer on option III, don't you have some $400 million fiscal 1984 funding that can't be used until then?

General WAGNER. The Army will not exercise option III until completion of testing next year. The Army is re-examining its alternatives under option III to reduce Government exposure at no additional cost during this interim period. One alternative under consideration is to fund the contractor on a monthly basis to a negotiated level that would allow us to maintain the schedule and a warm subcontractors' production base. If this alternative is selected, part of the fiscal year 1984 funding would be used between now and September 1985. The negotiated amount will be provided to the Secretary of Defense for approval.

Senator **Goldwater**. In your personal opinion, do you think, based upon the information that you have today, that the Army could have proceeded on its original procurement plan without undue risk?

General **Wagner**. Yes. The original accelerated acquisition strategy had higher risks than a more conventional approach. This risk was considered acceptable. The information available today shows that the acquisition strategy is working. The Army has reduced the normal time and associated cost for research and development, managed the concurrency and delivered a system that will meet its performance and reliability requirements while holding real cost growth to three percent over the original 1978 estimate.

Senator **Goldwater**. Do you think this decision will increase the cost of the Divad System? Suppose the Secretary of Defense gives his go ahead next summer, how much of an increase do you estimate will occur in the overall Divad procurement cost?

General **Wagner**. Yes, the Army can expect some cost growth in the outyears. It is difficult to estimate how much at this time because the contractor has not submitted his cost proposals yet. If he provides prices that are not considered fair and reasonable and negotiations are unsuccessful in lowering those prices, the Army will terminate the program at that point.

Senator **Goldwater**. Suppose the Secretary of Defense decides to cancel Divad next summer. What will you do with the 50 or so Divad's that will have come off the production line?

General **Wagner**. If the program was canceled, the units produced would be allocated between the two Corps in Germany and the Corps in Conus. A Training Base/Floats would be established. By having Divad in Conus and Germany an adequate rotational base would be established.

Senator **Goldwater**. I am sure the Army provided options for the Divad to the Secretary of Defense before his recent decision. Can you outline the options the Army offered, the cost of each option and tell us which option the Army recommended?

General **Wagner**.

	Cost impact
a. Alternatives:	
1. Award option III, Nov. 4, 1984; retain schedule	None.
2. Award option III, $25,000,000 to $50,000,000, Nov. 4, 1984; hold production at 6/mo. through September 1985; increase production rate to 10/mo. after completion of operational testing.	
3. Award option III after completion of operational testing (September 1985). Stretch option II to avoid a break at the subcontractor level.	$425,000,000 to $550,000,000.
4. Award option III after completion of operational testing (September 1985). Incrementally fund contractor to protect schedule.	None.
5. Never award option III	Approximately $100,000,000 (contractor cost incurred in anticipation of option III being exercised).

b. The Army recommended alternative 1—award ootion III, Nov. 4, 1984; retain the schedule.

Senator **Goldwater**. I am concerned about this decision. It appears to me that regardless of what happens from here on, the cost of Divad is going to go up. Do you agree or not?

General **Wagner**. Yes, the Army can expect some cost growth in the outyears. It is difficult to estimate how much at this time because the contractor has not submitted his cost proposals yet. If he provides prices that are not considered fair and reasonable and negotiations are unsuccessful in lowering those prices, the Army will terminate the program at that point.

[Whereupon, at 4.34 p.m., the subcommittee adjourned, subject to the call of the Chair.]ERR02*6601

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